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ABSTRACT

This publication presents a collection of research projects presented at the Annual Research Forum at Wake Forest University: "The Use of Group Work as an Effective Teaching Technique in Lower Level Spanish Classes" (James Blackburn); "What Are the Real Factors behind Student Motivation?" (Matthew Grey Burdick); "Can Students Communicate Mathematical Reasoning?" (Mary Elizabeth Cassells); "Establishment and Practice of Religion in the American Public Classroom: A Teacher's Predicament" (Angell Caudill); "A Study of Anxiety in the Secondary Spanish Classroom" (Summer Colucci); "The Use of African and Caribbean Francophone Literature To Teach Culture" (Katherine B. Farley); "The Writing Process in Secondary Level Spanish Classes" (Nancy A.M. Feider); "The Effects of Teacher Self-Disclosure in a Classroom That Addresses Controversial Ethical Topics" (Mary Beth Ferrell); "Student and Teacher Attitudes toward Technology" (Abdul Azeez Guice); "Immediate Corrective Feedback and Classroom Performance" (Andrew R. Hano); "Students' Perspectives of Title IX and High School Athletics" (Tricia Hester); "Classroom Seating and Student Anxiety" (Candi Lavender); "How Use of Multimedia Affects Student Engagement and Attitudes in English Literature" (Lori Lloyd); "A Study of Academic Motivation of High School Students" (Amy Marchell); "Classroom Culture and Psychosocial Environment" (Katherine Martin); "Gender Dynamics in the Classroom: A Study on the Effects of Single-Gender and Mixed-Gender Groups on Student Achievement and Attitude" (Maureen C. Miller); "Division of Fractions: Procedural versus Conceptual Knowledge" (Laura M. Nagle); "High School Coaching and College Academic Success" (DaLawn Parrish); "Technology in the Foreign Language Classroom: How Do Teachers Use It to Enhance Instruction?" (Allison R. Pratt); "Student Engagement in the Secondary Science Laboratory" (Jared M. Rashford); "Student

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Attitudes towards Using the Internet in Class as a Function of Class Time Spent On-Line" (Michael Riley); "Teaching Methods: Seminar versus Lecture" (Benjamin E. Sankey); "Female Science Students: A New Perspective" (Geoffrey C. Stewart); "Dialect Bias in Questioning Styles in the Standard English Classroom" (C. Lyn Strickland); "The Teaching of Evolution in North Carolina: A Study of Teacher Beliefs and Curriculum Decision-Making" (Kira Taylor); "Assigning Good Writing" (Emily M. Tierney); "Encouraging Social Action among High School Students" (Robb Warfield); "Standard English, Grammar, and Writing: Case Studies of Three Teachers" (Peter Wilbur); "Relationship of Musical Experiences and Mathematics Achievement" (David Williams); and "Why Do Students Misbehave in the Classroom?" (Brian Wolverton). (SM)

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Studies in Teaching
1999 Research Digest

Research Projects Presented at Annual Research Forum

WAKE FOREST
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Wake Forest University
Department of Education
Winston-Salem, NC
December, 1999

L.P. McCoy

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Leah P. McCoy, Editor

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The Use of Group Work as an Effective Teaching Technique in Lower Level Spanish Classes

by
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with
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Department of Education
December, 1999

Introduction

In the communicative foreign language classroom, the teacher sets up an environment in which real language learning can take place using the foreign language within a given context, for example, writing a letter to a Latin American friend, giving directions, etc. In this environment the teacher's approach to a lesson may address a number of learning styles: visual, auditory, analytical, musical, kinesthetic, etc. A teaching technique that incorporates a number of these learning styles is group work, in which the class is divided into groups of three to six students, and each group is given a task to perform. This task can range from the simple to the complex, depending on the language level of the class. A language purpose or objective should determine the use of any technique in the teaching of a foreign language. When planning to use group work, the teacher must ask and answer three questions to ensure that it is used effectively: What is the purpose of group work? At what point in the instructional presentation is group work best used in the classroom? How is group work implemented in the classroom?

This research study examines how group work is used in the beginning level Spanish class in order to understand its use and to determine how group work can be used effectively. The research delves into the documented uses of group work and indicates the positive aspects as well as the troubling elements involved in the use of this technique.

Literature Review

The research indicates many reasons for the use of group work in the foreign language program. Knerr and James (1991) report a particular type of group work called cooperative learning that is characterized by an emphasis on developing social skills and assigning specific roles to the foreign language learners in the group. Hadley (1993) writes that teachers use group work to allow students class time to develop oral skills, to reduce the pressure on students (lower affective filter) and to increase the quality of communication by creating information gaps that foreign language learners are forced to navigate. All of this causes the student to use effective, natural communication.

The studies done by Phillips (1989) and by Knerr and James (1991) both indicate that the affective filter is reduced when students work in groups. Phillips' study looked directly at anxiety and speaking in the foreign language classroom and found that the use of group work decreased anxiety in the foreign language classroom. In addition to lowering anxiety, or decreasing the affective filter, group work situations also increase the willingness of the foreign language learner to participate in class.

The research of Glisan (1988), Knerr and James (1991), and Curtain and Pesola (1994) indicates how effective group work is implemented. Glisan (1988) outlines the following guidelines:

1. Tasks should be simple and clear.
2. Students should have the grammar and vocabulary necessary for the activity.
3. The groups should be organized so that strong foreign language students can aid weaker foreign language students.
4. There should be a time limit on the activity in order to minimize boredom.
5. The teacher should be active at all times, checking progress, answering questions, keeping groups on task, etc.
6. Students must be made responsible for their learning, by reporting to the whole class after the activity or by writing something up on the activity for homework (pp. 109-110).

Quisenberry's (1982) study also indicated that the practice in which the foreign language learner engages should be done in terms of real and present referents, that is to say within a real context, and not in isolation such as drilling verb tenses for the sake of memorizing. This research addressed when and how group work should be used but did not address the question of when to use group work. This question is one that the researcher hopes to answer at the conclusion of the study.

Additionally, the research also raises questions regarding the effectiveness of group work in the areas of grammar accuracy and error correction. Milleret (1992) raises the question of grammar accuracy and student error correction, pointing out that in the group work situation it has been argued that the foreign language learner will not achieve grammar accuracy and address error correction. Long (1990) argues to the contrary, indicating that grammar accuracy does not decline in small groups and error correction is higher in small groups than in teacher fronted groups. According to Long and Porter (1985), foreign language learners do offer each other real communication practice which allows for a greater frequency of negotiation. Like any teaching technique, there are more appropriate times to use it than others. It is not the purpose of group work to supplant the use of other teaching tools in the foreign language classroom, but to enhance the teaching tools in use.

Methodology

In order to examine the use of group work in Spanish I and II classes, the researcher observed four public middle school foreign language classes at School X and a total of four public high school Spanish I and II classes at Schools Y and Z respectively in Forsyth County, North Carolina. The research was comprised of three sections: non-participant observation, a student survey, and a teacher interview. Through non-participant observation, the observer watched for the following items during group work situations at Schools X, Y and Z: when and how group work is used, teacher participation, use of the target language, whether students are on task, and student motivation and participation. The student survey was used to determine students' opinions regarding their motivation and participation, the use of the target language, teacher participation, grammar accuracy and error correction, and whether or not they like or dislike group work. The teacher interviews were designed to gain insight into the reasons behind their use of group work. The researcher observed any type of group work situations, formal or informal, that the foreign language teacher might employ to teach the five skills (reading, writing, speaking, listening, and culture) of foreign language learning.

Results and Conclusion

As a result of the student surveys, the researcher discovered that the students have a low affective filter as is evident by the high percentage of students who are comfortable speaking the target language (Statement 1 - 93%), but 62% of the students responded (Statement 5) that their teachers require them to use the target language some of the time or not at all during group work situations. Only 1% of the students surveyed indicated in Statement 4 that they do not participate during group work situations, leaving 99% that are participating to some degree. Additionally, 91% of the students surveyed indicated that they either loved or liked group work, explaining responses by indicating that they (84%) get a lot out of group work situations. Based on the teacher interviews, Teachers A, B, and C seem to be creating an environment where their students feel very comfortable learning Spanish, but each teacher indicated that they do not require the use of the target language during group work situations. All three teachers said that their students like group work, and Teachers A and C indicated that their students ask to work in groups all the time.

Each teacher indicated that s/he uses group work at various times, but that it is used mainly to support, enhance or reinforce a lesson - to review for a test or quiz, to review errors made in work. Teachers A and B indicated that the use of group work situations motivates all students and, as Teacher B noted, it motivates the less motivated.

With regards to grammar accuracy and error correction, 63% of the students surveyed responded to Statement 8 that they are given feedback when they make mistakes during group work; Teachers A, B and C concurred. Milleret's (1992) concern regarding grammar accuracy and error correction is not supported by the survey results.

Based on the observations, the student surveys, and the teacher interviews, this researcher feels that although group work is being used often and students respond to its use, it is not being used effectively. The goal of foreign language instruction is to help foreign language learners develop a high level of proficiency for communication. The teacher sets up an environment in which real language learning can take place using the foreign language for meaningful language purposes. However, the problem with the use of group work as studied by the researcher is that students are not using the target language as often as is possible, thus hindering the foreign language learning experience. The schools that the researcher used for this study are all recognized as schools with good foreign language programs, and the researcher feels they could be improved if the target language is used as often as possible.

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What Are the Real Factors Behind Student Motivation

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December, 1999

Introduction

In today's school settings many different factors affect student motivation – defined as a desire to learn, work hard, obtain good grades, and personally succeed in classes. The need for research in this field should speak for itself, but its main importance is that students put more effort into their work when motivated (Hardwick, 1996). Researchers continually analyze school motivation in attempt to find what makes students want to learn. When connections to certain students' desires to learn are positively identified, all parties involved in the education field will benefit. Three different conditions consistently arise as potential factors of motivation: gender, living arrangements (two parents or one/no parent[i]), and level of classes (honors or regular). How do these variables factor in with motivation and what connections can be identified? Much of the following research provides solid information concerning these questions, but contrasting evidence continually presents itself, providing the need for continued examination and the ensuing study.

Review of Literature

As many of the researchers note in their works, specifically analyzing one aspect of motivation is extremely difficult when considering the multiple factors involved in motivation as a whole. When looking at how gender, living arrangements, and class level affects motivation, other factors such as socioeconomic status, classroom instruction, climate, age, and extracurricular activities arise, making it complicated to single out one of the variables and producing unreliable results. Although difficult, it is therefore best to analyze each of the three variables as separate entities in order to isolate their effect on motivation.

The effect of the first variable, gender, is still not entirely understood. Thibert & Karsenti concluded that motivation does not occur under the same circumstances for both genders (1996).

Amotivation appears to be one of the best predictors of girls' achievement while intrinsic motivation is the main predictors of boys' achievement." They also found girls to be significantly more determined than boys, and that boys needed more external regulations to strive for academic achievement.

Marcon (1999) believed that how boys and girls perceived their scholastic abilities effected their academic motivation/achievement more than any other factor. It was also found that student aspiration level was a more critical factor in determining school behavior of boys than girls (Campbell & Rolando, 1981). Hughes (1986) concluded that girls generally preferred working on easier tasks, while boys would generally undergo the more ambitious task. In other words, both boys' and girls' motivation was more influenced by how smart they considered themselves to be, how far they wanted to go in school, and how difficult the task was.

Research concerning the effect of living environments on motivation is just as important. The two main causes of low motivation come from parents who do not stress the importance of an education, or emphasize high standards, and from the living environments students face (Berube, 1995). Insufficient parental support and involvement in their children's learning proved to also be a probable cause of underachievement (Clooney, 1998). Furthermore, stable living situations and sincere interest in the student's schooling from family members produced higher levels of motivation (Brooks, Bruno & Burns, 1997).

Some believe that those from single-parent homes were more academically inclined than their peers in two-parent homes, others found that motivation was greater in two-parent homes, because on the whole, their families were more stable with more positive role models than single parent homes (Marcon, 1999; Presmeg, 1995). Again, placing the emphasis on living environment, it was found that family satisfaction is the strongest predictor of a student's self-esteem, yet the effects of living conditions are still unclear (Cashwell, 1995).

Research concerning the last variable, the effect of different class levels on motivation is limited. DeMars (1999) found that the overall effects of motivation does apply across ability level groups, but does not apply to all levels equally. There tend to be higher correlations between increased motivation and better academic performance for the higher-level students.

Contrasting evidence found no major disparities in the motivation of different ability levels when outside factors were held constant (Powell 1997). All levels of students reported that teachers rarely provided them with motivational strategies or goals, and that teacher encouragement was low. There was little relationship between school satisfaction and class level, and students were generally satisfied with their level placement (Lesyk, 1971).

All three of these variables have considerable effect on motivation. Other outside factors are involved in measuring motivation. The types of activities in which the students are involved can also prove to be extremely useful when looking at student motivation. Background research found that some activities positively correlated with educational achievement, i.e., cultural activities, while entertainment activities like sports had a negative correlation (Harnvqvist, 1984).

Several of the preceding studies were based on the common notion that school satisfaction and student motivation are complementary and lead directly to achievement. Hardwick (1996) concluded that student motivation is a mediating factor for performance, while Thibert & Karsenti (1996) also found academic motivation and school satisfaction to be significantly related to academic achievement. The following study will further examine the relationships of gender, living arrangements, and level of classes with student motivation.

Methodology

Two local high schools were used to gather data in the study on living arrangements and student motivation. Thirty-two tenth grade, World History students (sixteen honors level and sixteen regular level) were interviewed. Students were selected from teachers who taught both levels of classes to control for teaching styles. Because of the random selection process used in the study, an uneven number of those living with two parents (twelve), and those with one parent or no parent (nineteen) were selected for the sample.[iii] As well, an uneven number of boys and girls were selected (fifteen boys, seventeen girls).

The researcher chose to interview in a one-on-one format rather than questionnaire form in an attempt to try to gain as much accurate information as possible. The seventeen questions ranged from school satisfaction level, to activities involved in, to whether they felt they belonged in a different level, to living arrangements. Each interview took roughly ten minutes. The students were encouraged to discuss as much as they desired, and were informed that the longer they talked, the longer they stayed out of the classroom. Unfortunately, because of timing and funding constraints, the number of total participants was low. Regardless, the descriptive information provided by the interviews is interesting and useful.

Results and Conclusions

Assessing student satisfaction is quite easy in comparison to calculating motivation, therefore satisfaction levels will be used in direct conjunction with motivation based on previous research.[iv] All three variables had substantial differences, although the class level provided the only statistical significance. The low number of participants unfortunately contributed to the lack of statistical significance study, but the trends discovered are just as noteworthy.

Overall satisfaction levels of the three variables were as follows : girls averaged 3.529, in comparison to boys at 3.133. Those living with both parents averaged 3.500, to just 3.160 for those living with one. The largest difference, as previously stated, came from the honors level students who averaged a 3.688 in contrast to 3.000 for the regular level students.

The types of activities that the students were involved in continually provided good dividing lines between these three variables. Research stated that sports were detrimental to motivation, yet the results of this study found otherwise. Sports and clubs were the two activities that produced extremely high levels of school motivation, while holding a job or doing nothing produced extremely low levels of motivation.

From this study, we can determine the makeup of the most motivated student, an honors level girl from a two parent home who participates in either sports or clubs. More importantly though, the student identified as needing the most help with being motivation in school would be a regular level boy who lives with one parent and either works or does nothing outside of school.

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[i] From now on, those in the one parent or no parent category will be generically classified as one parent.

[ii] amotivation - no link between actions and their predicted and perceived outcome. Intrinsic Motivation - participating in an activity solely for the pleasures that come from partaking.

[iii] One interview was not fully completed because of time constraints at the school, and his living arrangements were not identified.

[iv] Students were asked to place themselves on a scale of one (the lowest) to five (the highest).

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Can Students Communicate Mathematical Reasoning?

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December, 1999

INTRODUCTION

This study investigated the students' process of explaining and justifying the various steps of the "informal proof," or multiple-step, Algebra I level problems. The goal of this study was to examine the way in which students are mathematically reasoning through the steps of the informal proof process, and to interview students one-on-one to explore whether they could verbalize their understanding through correct mathematical terminology.

REVIEW OF LITERATURE

"Algebra is the language of generalization" (Usiskin, 1995, p. 31). It is the language through which we describe patterns. Algebra also provides a relationship between quantities, defined as functions in mathematics. One can live without Algebra, but then the mathematical richness of the world is sacrificed.

According to Webb (1979), there are two components that are essential to solving algebraic equations: One is conceptual knowledge -- the facts, concepts, principles, and algorithms that are needed to solve problems; the other is the process, heuristics in particular, which are used to recall and construct information while solving the problem. The information internalized from earlier acts in mathematical problem solving is the conceptual knowledge. The procedural skills that operate on the conceptual knowledge are the processes (Webb, 1979).

Barnard's (1989) research supports that the extent and nature of mistakes made by students in Algebra can be attributed to the superficial and/or incomplete formation of basic concepts. Errors in mathematics are the consequence of concepts, terms, and processes not being understood, principles not being mastered, and other causes like accidental arithmetic mistakes. The incomplete and/or superficial formation of concepts in the cognitive structure leads to the confusion of concepts and incorrect results. Then operations and manipulations are performed mechanically with the aid of rote knowledge, recipes, and examples (Barnard, 1989).

Any mathematics teaching which involves more than mere memorization has got to take the formation of concepts into account. Mathematics contains complex contextual rules and the mastering of the mathematical vocabulary can be regarded as an indirect mastering of these rules, and consequently of the concepts required for an understanding of mathematics. The vocabulary is also the component that allows transformation of knowledge to take place. Thus, students who do not understand the vocabulary will not benefit fully in learning the mathematical concepts (Barnard, 1989).

Unfortunately many students learn mathematics primarily on a procedural level and do not understand the meaning of mathematics concepts, or how to apply them. This causes their mathematical vocabulary to generally be inadequate, incomplete, and sometimes inappropriate (Bradley, 1988). Bradley shows that two serious flaws are present in current mathematics learning and instruction: the lack of meaning in students' mathematical knowledge and students' inability to communicate using appropriate mathematical language. Several researchers have even found a positive correlation between the ability to comprehend written mathematical material and achievement in mathematics (Jackson & Phillips, 1983).

Without a mathematical vocabulary, students often have a limited view of algebraic expressions. Then their notion of the solution to an algebraic equation seems to be associated more with the ritual of the solution process rather than the numerical solution obtained. Thus, the students may fail to grasp the meaning of the operations performed on the literal symbols, the algebraic expressions, or the equations (Linchevski & Herscovics, 1996).

Requiring students to document in writing or describe orally their thinking, justify their solutions, provide multiple solution methods, or verify someone else's line of reasoning, helps students develop their understanding and their use of the language of algebra, as well as their abilities to communicate (Greenes & Findell, 1999). "It is vital that pupils should first be able to identify the principle or law on which an operation is based and also that it should be meaningful to them before the process is mechanized" (Barnard, 1989, p. 11).

One common mathematical misconception that students acquire is the confusion between variables and labels, with failure to understand that variables stand for numerical expressions (Mestre, 1989). "Understanding the concept [of variable] provides the basis for the transition from arithmetic to algebra and is necessary for the meaningful use of all advanced mathematics" (Schoenfeld & Arcavi, 1988, p. 421).

The concept of equality, or balance, is central to an understanding of algebraic equations. Students must learn ways to transform expressions and equations to equivalent forms and to modify inequalities to achieve equality. Modifications include adding the same amount to both sides of a balanced scale, multiplying both sides by the same positive factor, and making substitutions with equal amounts. These modifications on equality are difficult conceptually for students (Greenes & Findell, 1999).

The purpose of this investigation was to interview students of various mathematical abilities and examine their competence in communicating the mathematical properties behind the steps of a multiple-level math problem.

METHODOLOGY

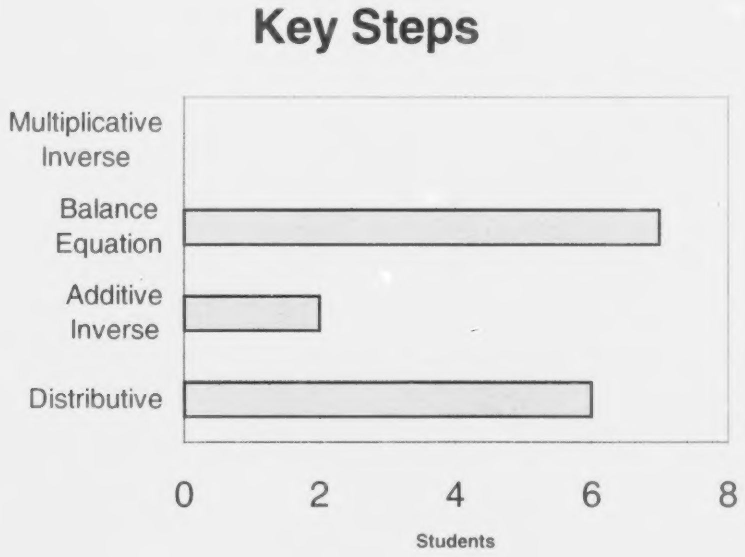
Seven subjects were chosen for this study from classrooms in two high schools of the Winston-Salem/Forsyth public school system. The students were selected on the basis of their enrollment in an Algebra I math course. Gender was not examined as a variable, but both sexes were involved in the study.

The researcher interviewed seven high school students enrolled in Algebra I in a one-on-one fashion. During the interview, the student was given one typical multiple-step Algebra I problem. They were given time to solve the problem completely and then answer questions regarding their steps to reach their solution. The Algebra I problem given was "$-7x + 3(x - 3) = 5x + 7$."

RESULTS AND CONCLUSIONS

There were four specific key steps that were used as knowledge of how to justify the steps of the informal proof: (1) The Distributive Property, (2) balancing the equation or combining like-terms, (3) the Inverse Property of Multiplication, and (4) the Additive Inverse. Of these terms, balancing the equation or combining like terms were used in the explanation vocabulary of all seven students, even though one student was not able to perform the operation. Six students were able to identify the Distributive Property, while all students could demonstrate it mathematically. Two students were able recall the Additive Inverse, and the Inverse Property of Multiplication was mentioned by zero students.

Five of the seven students interviewed were able to find the correct solution. The question did not ask students to define terms, but rather to perform an example surrounding the mathematical concepts and name the property. But even this proved to be difficult for two students. These students had problems with the manipulation of formulas, especially balancing the equation and combining like terms. Both students knew the Distributive Property, but were unable to apply it. One student did not combine like terms, and tried to add "$7x$" to every term with a x-variable. The other student did combine like terms, but then said, "I really don't know what to do next … Is this right?" These errors could be due to the fact that the students are not taught to notice the basic principles and concepts which lead to the solutions (Barnard, 1989).



Implications. Mixed results indicate that conceptual and procedural knowledge is not being emphasized to the correct degree. "Concept development is seldom given sufficient consideration in U.S. mathematics classrooms. Conceptual understanding involves language and connections and occurs over time, not in a single lesson" (Huetinck & Munshin, 2000, p. 11). Since the teachers are responsible for educating the students about correct mathematical procedures and concepts, then they themselves need to possess a complete mathematical vocabulary, and strong procedural and conceptual knowledge. In conclusion, when teaching students how to solve an equation, the procedure and the conceptual reasoning behind the method are equally important.

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Establishment and Practice of Religion in the American Public Classroom: A Teacher's Predicament

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December, 1999

Introduction

"Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof"; (The Constitution of the United States of America, 1st Amendment, religious liberty clauses). The Supreme Court has applied this language to a variety of situations. In the 20th century cases involving religion, education, and the law have been numerous and confounding. Does the average public school classroom teacher understand religious establishment and religious practice law and does this understanding or lack thereof impact his or her pedagogy? Clearly, this question needs consideration.

Review of Literature

The American public is concerned about the role of religion in education. In a 1989 study, Kinker(1989) finds significant correlation between amount of legislation concerning religious and moral education and enrollment size. Bolton (1983) finds that the source of support for legislative initiatives concerning religion in public schools is based in traditional southern religious attitudes. This may conflict with Kniker's findings which show a concentration of states with high numbers of laws regulating religion in public schools along the boarders of the United States, including California, and the New England States. *The Williamsburg Charter Survey on Religion and Public Life* (1988) interviewed a total of 1,889 adults and 300 teenagers. The findings noted broad-based confusion in the general public between theory and practice concerning separation of church and state in the arena of the public life. Either on a local school district level or a broad regional level, public dissatisfaction about the role of religion in public life moves the body politic away from consensus.

In schools where religious courses or extracurricular activities are offered, two-thirds of students surveyed did not perceive neutrality on part of the school or on the part of teachers who sponsored the activities (Rossow, 1987). When the same survey was given to college students, over two-thirds could perceive neutrality on part of the institution.

In a 1998 case study, six school superintendents who had experienced religious conflict in public schools were interviewed. The findings indicate that the ability to find common ground was most important in surviving these conflicts. (Benestante, 1998). This research highlights the seriousness of incidents of religious conflicts that reach the level of superintendent involvement. Were classroom teachers themselves educated in First Amendment law, serious conflict might be alleviated.

What then *is* the position for teachers in individual classrooms? Bilger (1979) argues for strict neutrality. In "Religion and Public Schools: The Twilight Zone" the author discusses holiday programs, Bibles on school grounds, and religious courses in general. Bilger suggests that anything short of strict neutrality would result in government censorship of churches and religious practices. A 1997 survey would suggest those fears are unfounded. In a study of public school teachers enrolled in elementary and secondary education courses at two Texas universities during the summer of 1995, Milson (1995) finds that objectivity is not significantly influenced by the reported religious beliefs of the subjects.

Certainly extraction of religious content from the curricula seems never to have been the intention of the Supreme Court. Justice Clark in School District of Abington Township v. Schempp (Schamel, 1989) supported a comparative study of religion. The following year, the American Association of School Administrators stated their essential argument for teaching about religions.(Kniker, 1985).

Although the courts now seem open to balanced inclusion of religious and secular views, textbook material for use in public schools seems inadequate. For example, Hamilton (1983) states that creation science, generally associated with fundamental Christianity, can be taught in public schools. It must be taught, though, as a science and subjected to the scientific method. In a study of most textbooks published in the United States, Nord (1989) finds religion almost completely ignored. Nord further argues that the Supreme Court in demanding religious neutrality has effectively eradicated religion from the curriculum. Charles Whittier, specialist in Religion and Public Policy concurs with Nord. He reports in a 1989 Congressional Research Document that "evidence for secularization-by-omission has been provided in recent studies of public school textbooks documenting the virtual exclusion of American religious life and traditional values from the treatment of history and social studies."(Whittier 1989)

Each school day tens of thousands of professionals in America form the front lines of defense for the U. S. Constitution and the First Amendment. Yet, few are armed with even rudimentary knowledge of the matters at hand. In Kniker's (1989) work only three states mentioned a certification endorsement to teach about religion. Nord (1989) demonstrates that appropriate content is very scarce. What is one to do? The idea that teachers are placed in such a conundrum is deeply troubling.

Methodology

The purpose of this descriptive study, conducted in one Southeastern state, is to determine senior high, public school teachers' existing knowledge of, practice of, and attitudes about the religious establishment and religious practice in their classrooms and schools. A written survey focusing on classroom teacher's existing attitudes about religion in the curriculum, extracurricular activities and experience with religious conflict was developed and administered. In constructing the Survey, 14 questions were designed to elicit both qualitative and quantitative data about classroom teachers and their attitudes about and knowledge of religion in the public school classroom. Question types were divided between open-ended, Likert scale, and multiple choice. The survey was administered by the researcher or designated administrators selected by the researcher. In addition to the Survey, teachers were given the opportunity to participate in interviews and/or be observed in their classrooms. Subjects were 134 high school teachers from urban, suburban, and rural public schools.

Results and Conclusions

In response to the prompt, "When I think about religion in the public schools I feel," the highest response was "confident" with 33%. The next highest response was "uncomfortable" with 25%. "Confused" elicited 18% of the responses and "informed" 22%. No teachers chose "embarrassed".

In response to a similar question when asked, "How would or do you feel about sponsoring extracurricular activities with religious overtones", 48% of the respondents chose "confident" while 36% chose "uncomfortable". 6% of the teachers indicated they would be “confused” about religious extracurricular activities, 8% felt “informed” and 2% “embarrassed”.

When asked to identify where they had learned about religious establishment and religious practice, 42% of the responses indicated in college courses, followed by 31% from public opinion, 14% reading court decisions, and 12% through in-service training.

Oneway Anova applications showed that demographic characteristics had no bearing on attitudes. The significance for “years taught” was .751. “School types” yielded a significance of .407. “Subject areas” had a significance of .187. Independent t-test for “Educational level”, “Gender”, and “Race” showed significance levels of .337, .517, and .392, respectively.

In addition to the above quantitative data, open-ended questions produced narrative data. Voluntary responses to the prompt regarding religion in the public schools seemed to come from teachers either very against religion in public schools or those very supportive of religion in public schools. There was very little middle ground. Representative responses for the two groups were “It has no place in public education” and “it should be taught”. The majority of responses in this area were in support of what was perceived as a return to religion in schools. Responses in this venue included “we need religion in schools as evidenced by recent events”, and “saddened that the 1st Amendment has been so misunderstood”.

This dichotomization of teacher attitude held for responses to “how do/would you approach the subject of religion in your classes”. Some teachers responded that they would not, for fear of losing their jobs, mention religion in any way. Others mentioned the need for presentation of religious material as it arises in their curriculum in a fair and unbiased fashion. In a related area, several respondents noted that they would not under any circumstances sponsor an extracurricular activity with religious overtones, while a few others mentioned that they would gladly sponsor an extracurricular activity if it related to their own religious beliefs. Three areas of religious controversy in content area were cited. Non-western religious literature, non-western religious history, and evolution theory were areas where individual teachers reported having had conflict with either students or parents

As the review of literature suggests and as the results of this survey confirm, teachers hold different and often opposite opinions about the role of religion in the American public classroom. These attitudes are not a result of gender, race, educational level, subject matter taught, or years taught. There is not a majority view in the attitudes of these professionals. These attitudes affect the way teachers present content material and relate to their students and their student's parents. These attitudes also affect the wider climate of the school in the area of extracurricular activities. There is not a definite source from which teachers have gained information about the issues.

The responses elicited by this research offer an incomplete picture of teacher attitudes about and knowledge of religious establishment and practice in the American public classroom. More research is needed to determine the root of attitude formation since the demographics in this study were insignificant variables. In addition, a larger and more racially diverse sample is needed before results can be generalized. These results illustrate an explicit need for greater attention to an issue that causes such a predicament for so many.

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A Study of Anxiety in the Secondary Spanish Classroom

by

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December 1999

Introduction

Speaking in any class for many students is a task that produces great anxiety. This anxiety is amplified when students are asked to speak in a foreign language in front of their peers. Research has shown that foreign language is more anxiety inducing than any other course in a student's academic program (Horwitz, 1986; MacIntyre, 1989). With the current emphasis being placed on communicative competence, classroom activities aimed at encouraging authentic language interactions tend to increase anxiety levels for the already anxious foreign language learner. As a result of this shift towards oral proficiency, researchers have been interested in the sources of foreign language anxiety and providing teachers with ways to reduce anxiety so learning can be maximized. This is predominantly seen in the beginning levels of foreign language learning where high levels of anxiety often prevent students from acquiring language and deter them from pursuing foreign language study in the future (Young,1990). This study examines the sources of anxiety for beginning foreign language learners and the teacher's role in reducing anxiety.

Review of Literature

Research on foreign language anxiety has produced a number of contradictory findings. These include no relationship between anxiety and language learning, a negative relationship (as language learning increases, anxiety decreases), or a positive relationship (anxiety has a positive effect on performance) (Young, 1990). This ambiguous research is a result of the complexity of language anxiety, including the variety of approaches employed to study language anxiety, the different definitions of anxiety, the number of variables affecting anxiety, and the variety of instruments used to measure anxiety.

Horwitz (1986) defines anxiety as the "subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the automatic nervous system"(p.125). Physical manifestations of this state include increased heart rate, sweaty palms, and forgetfulness. According to Krashen's Affective Filter Hypothesis, acquisition of a language can occur if three conditions are met: motivation, self-confidence, and a low level of anxiety(Krashen, 1983). For students who are beginning to learn a new language, confidence levels are generally low and anxiety levels are high. Krashen holds the belief that there is no positive aspect to anxiety in language acquisition, while Omaggio-Hadley (interview, Young, 1991) believes a certain amount of anxiety is necessary to avoid a low affective filter which can decrease one's desire to learn the language. The tension that learners face can be seen as a positive force when it motivates or, as Terrell and Rardin (interview, Young, 1991) believe, there can be a positive aspect to anxiety if it produces alertness. Omaggio-Hadley feels that anxiety should be minimized but not to the point where they do not receive any input. It is important to realize that some anxiety must be necessary for learning to occur (facilitating anxiety), but the research has shown debilitating anxiety to impact language learning negatively. Foreign language teachers will probably never be able to eliminate all anxiety producing events especially when the push is towards oral proficiency. As a result, this researcher will focus on the research done on debilitating anxiety and more specifically on research related to the anxiety experienced in speaking in the foreign language classroom.

Research about foreign language anxiety has generally followed three approaches: trait anxiety, state anxiety, and situation specific anxiety. Young (1986) describes state anxiety as an unpleasant emotional condition or temporary state as opposed to trait anxiety which refers to a personality characteristic that lends a person to be anxious in any situation. Situation specific anxiety research examines anxiety in specific situations, such as speaking in class and according to MacIntyre and Gardner (1991), this has been the most meaningful and consistent research. Also, current research in foreign language anxiety is moving toward the third type of anxiety research.

Young (1990) conducted a study that examined students' perspectives on anxiety and speaking. Young found that speaking in a foreign language was not the exclusive source of student anxiety but that speaking the foreign language in front of the class is. Young also found that instructors' positive approach error correction reduces language anxiety. These results were obtained for both college and high school Spanish students.

Krashen and Terrell (1983) devised The Natural Approach as one way in which foreign language teachers can lower the affective filter. This approach aims to take students off the defensive and lower the anxiety level. In this approach, at the beginning stage, students are not forced to give an oral answer; they use other techniques such as nods and following commands to demonstrate comprehension. Students move in a progression from listening to giving one-word responses, such as yes/no answers, and then progress to open-ended statements. Eventually they progress to full responses.

It is important that foreign language teachers are able to identify students' heightened anxiety when speaking and actively work to reduce it. There are a number of strategies for alleviating anxiety, including cooperative learning, group work, and pair work. Van Berge (1993) says that "dividing the class into smaller units lowers the stress level of students and makes them less anxious about speaking in the foreign language" (p. 28). Horwitz, Krashen, and Terrell all stress the importance of easing learner anxiety in the first two years of language instruction (Horwitz, 1986; Krashen, 1983) .

Methodology

Eight Spanish I and II classes in a southeastern school district, two high schools (School 1 and 2) and one middle school (School 3), participated in this study. Four Spanish teachers, (Teachers A,B,C,D), also participated in the study. The total number of students surveyed was 122 with a 68% return rate.

In order to assess the sources of anxiety for second language learners, a modified version of Young's (1990) questionnaire assessing anxiety was administered. This instrument consisted of a total of fifteen questions that asked the student to agree or disagree with each statement. There were also two questions that asked about the methods and personal characteristics of their teacher (good sense of humor, friendly, funny) when teaching Spanish. A final question asked if they felt their teacher worked to reduce anxiety, and they were also asked for additional comments. Percentages were calculated on a total basis for responses to the questions. The researcher also presented ten questions related to the questionnaire items to the four Spanish teachers and observed each teacher teaching each class.

Results

A total of 122 subjects, 43.4 % male and 56.6% female completed the questionnaire. The mean age of the participants was (x=14.4016) and the number of years of foreign language completed was (x=4.8). Of these students 27.9% were 8th graders, 23.0% 9th graders, 27.9% 10th graders, 16.4% 11th graders, and 3.3% 12th graders. A total of 53.3 % of the students agreed that they would feel more confident about speaking in class if they practiced more (Item 1), while 63.1 % of the students agreed that they would be less anxious about taking an oral foreign language test if they practiced more. Teacher A agreed that teachers can help reduce anxiety through practice and encouragement. Clearly, students agree that more practice would help to reduce anxiety when speaking the foreign language. More importantly, 94.3% of the students indicated they were more willing to participate in class if the topics discussed were interesting (Item 13). Teacher B expressed that anxiety could be reduced by allowing the students to talk about something they have written or are confident about.

The degree of student preparation was measured in Item 2. An overwhelmingly 73.8 % agree that they feel relaxed in class when they have studied a great deal the night before, even though the average time spent studying for Spanish class was twenty minutes. There was substantial support for enjoying class when working in pairs; Item #6 indicated 83.6% agreement and Item 15 an 86.1% agreement. All four teachers reported using some form of group work in their classes, some more than others. A majority of the students, 76.2%, indicated that they would not enjoy class if they were never corrected (Item 8). All teachers agreed that students need to be corrected after they have spoken, that they should never interrupt them, and they should always be corrected in a positive manner.

Students reported feeling less anxious when they are not the only person answering the question (63.9%, Item 3) and prefer to be allowed to volunteer an answer instead of being called on (86.1%, Item 12). All teachers agreed that the best thing to do is to allow them to volunteer, but some students need a little encouragement to participate. Fifty-four percent (54%) indicated that graded presentations affect their speech (Item 4). Teacher A and Teacher C do not have oral tests, but have speaking as a part of class participation. Teacher B does not grade speaking, and Teacher C gives a weekly oral exam. The items that resulted in split percentages were the use of role-playing and skits; for many of these students these activities did not apply, 36.9% and 34.4% respectively. Teacher A reported these activities to be too rowdy for the larger classes.

Overall, 77.9% of the students (Item 14) indicated that their teacher worked to reduce anxiety. While only 15.6% disagreed, the other students felt their teachers worked somewhat to reduce anxiety.

Conclusions

The findings of this study tended to support previous research done on anxiety when speaking a foreign language. Most students feel that their teachers work to reduce the level of anxiety and have a care-free positive attitude, but some anxiety in certain situations still seems to exist. Even though these teachers are doing many of the suggestions offered by the research, for example, using pair work, having a relaxed manner and a positive attitude, the findings of this study suggest that more research needs to be done to determine why the anxiety still exists. This may be due more to pre-determined factors such as personality traits, for example, students who are shy in general. Studies that examine this feature of anxiety should be explored to provide a fuller understanding of learner anxiety. Teachers should continue to work positively with students as these methods and attitudes may have other benefits.

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The Use of African and Caribbean Francophone Literature to Teach Culture

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Introduction

"Culture forms the backdrop which [assigns] words [to] their connotations, determines basic assumptions about the world, and assigns values to behavior" (Abrate, 1993, p. 31). In reading authentic texts, students can learn valuable cultural lessons about the world around them that are not found in language textbooks. These cultural lessons can help students understand and appreciate other cultures. West & Donato (1995) explain how students encounter cross-cultural experiences while reading African folktales. Through literature, some students may experience a hypothetical visit to the target culture which may prepare them for real-life encounters with the target culture. "The inclusion of foreign languages in the curriculum is traditionally based on the grounds that foreign language study will ultimately lead to a liberation of the mind, to greater international understanding and cooperation, and toward an appreciation of (or at least respect for) other peoples' ways and values" (Lalande, 1988, p. 574). This cultural experience may be especially important for the generation of students growing up in today's global environment.

Review of Literature

The National Core French Study of Canada (NCFS) identified several goals for the teaching of francophone culture. The goals are summarized as follows: appreciation of francophone culture, preparation for life in bilingual Canada, broadening of student horizons, understanding of students' own culture, increased interest and improved skills in the French language, and reduced ethnocentric attitudes (Flewelling, 1994). While these goals are interconnected, they all focus on the importance of student awareness and communication in today's global environment. Abrate (1993) states that "proficiency in a language can never be acquired without a thorough grounding in the culture that speaks it" (p. 31) which implies that if the goal of foreign language teachers is to teach proficiency in the language, they are obligated to teach the culture of the language. Two of the reasons Omaggio (1986) lists for why teachers may neglect the teaching of culture in general are a lack of time and confidence in their cultural knowledge.

When using literature to teach culture, Lalande (1988) suggests that teachers should focus first on the similarities between the target culture found in texts and the students' culture. Storytelling is one successful approach at the elementary grade level when students are practicing listening skills to develop speaking, reading and writing. This is especially effective when studying African folktales due to the historical importance of the oral tradition and the role of the griot in African society. "Since folktales come from the oral tradition of a culture, they are ideal for storytelling, one of the most powerful tools for surrounding the young learner with language" (Pesola, 1991, p. 340). By using literature in foreign language classes today, this approach idealistically uses the "big C" of the target culture to teach the "little c". Martin & Laurie (1991) define art and history as the "big C", while life and customs are defined as "little c". With appropriate planning by the teacher and appropriate level based activities, literature can be used successfully for even the beginning foreign language student. The teacher's job is to find literature that portrays valuable content for the foreign language student (Purcell, 1988). Lalande (1988) broadens the concept of literature to include folklore, historical accounts, newspapers, songs, comic books, and fairy tales to name a few. Teachers must be selective in the literature they plan to teach so that the literature will be effective for all of the learners in the class. Purcell (1988) defines authentic culture as "the presentation of the target culture in a manner that a member of that culture would recognize as typical of his or her daily life and experience" (p. 20).

"The many literary and cultural contributions made by francophone peoples from around the world are also being recognized as a fundamental and integral part of any French language or literature program" (Kulick & Mather, 1993, p. 900). When students are presented with traditional French literature, their cultural study becomes limited to certain eurocentric values. The study of poets and authors from the negritude movement of black African and Caribbean writers which began in Paris in the 1930's is an excellent way to introduce students to a variety of francophone cultures. Warner comments on the dimension literature adds to the teaching of culture in the demonstration of "the futile nature of racial discrimination, the beauty of African and Caribbean culture, the contribution of the black man to the 'civilisation de l'universal,' and what is more, the universality and beauty of the French language" (1974, p. 81). With millions of francophone people living in Africa and the Caribbean, this is an aspect which must be addressed in our French programs at all levels in order to better prepare our students to confront today's global environment.

Methodology

The researcher conducted teacher interviews in order to gain insight into how culture and literature are used interdependently to teach second language development. The purpose of these interviews was to ask individual foreign language teachers questions about their personal experiences, successes, failures, beliefs and opinions concerning the use of African and Caribbean francophone literature to teach language development and cultural awareness. The researcher chose two elementary school French specialists, one middle school French teacher who previously taught elementary school, and two high school French teachers from public schools in Forsyth County, North Carolina to participate in the study. It is important to note that the sample was not randomly selected and that each of the participating teachers is active in professional development opportunities. The questions focused on the following topics: the genres of literature they select, successful activities they have used, student interests, benefits of literature in the program, and the teacher's own personal concerns about teaching this literature. The researcher also asked about the criteria used in the selection of literature, its content, and how the literature is selected for each language level.

Results and Conclusions

Each of the teachers interviewed shared the same goal when teaching culture - to promote student awareness and acceptance of other cultures. Two of the five teachers encourage students' appreciation of these cultures. Three of the five teachers distinguished the meaning of culture between the "big C" and the "little c" in their approach to planning instruction. The majority of teachers stressed teaching the differences between the students' culture and the target culture. All of the teachers interviewed have purchased authentic teaching materials when traveling abroad. These teachers bring real-life cultural connections into the classroom with guest speakers or pen pals from francophone nations. The middle school teacher uses holidays to teach different customs. The teachers in this study feel that francophone literature provides access to various countries by reflecting their traditions and customs. At the same time, literature is used to teach language development by teaching grammatical structures and vocabulary. The elementary grades teachers use authentic storybooks, repetitive poems, and songs to teach language development and cultural awareness, while the secondary teachers use authentic poetry, short stories, folktales, music, plays and essays. The elementary grades teachers look for cultural similarities which reflect students' interests and childhood beliefs, and two teachers have developed African French units. The secondary teachers seek for subjects and themes of cultural diversity issues in popular literature with which all students will be able to relate. The teachers in this study believe that African and Caribbean francophone literature benefits students in many different ways, but some are concerned about having enough time and content knowledge to teach this literature. Each of the teachers interviewed has used some type of francophone literature, however, it was a limited amount, and the specialists in the elementary grades used the least amount of literature.

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The Writing Process in Secondary Level Spanish Classes

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Introduction

Learning a foreign language in order to be able to speak and write at a high level of proficiency is extremely important and useful in our society. The process of attaining oral and written skills in a foreign language requires years of continuous practice. Teachers often do not begin the writing process until students have acquired basic oral and grammatical skills. In order to maximize writing potential, the writing process should be incorporated from the beginning of language learning as oral and listening skills are developed, moving from the formation of simple sentences to more sophisticated language such as paragraphs and compositions (Omaggio, 1986).

Research shows conflicting results and opinions about the importance of error correction in the development of writing skills in the foreign language classroom. Some researchers feel that error correction is unnecessary because students will eventually learn to correct themselves, whereas others feel correction is crucial to language proficiency (Cowie, 1995). Whatever the belief towards feedback is, error correction should be done in a way that minimizes student anxiety because the student will be more successful and work harder if s/he feels less anxious during the writing process (Semke, 1984). Methods of error correction, approaches used in teaching the writing process, the level of student anxiety, and assessment techniques are just a few of the factors that contribute to becoming a proficient writer in a foreign language.

Review of Literature

Scott (1996) describes the types of writing which are commonly used in foreign language programs. Beginning learners start out by writing short sentences and simple descriptions such as expressions of likes/dislikes and opinions. More advanced students can do the same sort of activities in more detail, including writing simple paragraphs. These students will build on previously learned skills and eventually write longer compositions.

The actual writing process is also very important in developing writing proficiency. Scott (1991) and Omaggio (1986) find that writing to improve communication skills can and should be used from the beginning stage of second language teaching. Having students write for communication can decrease the number of word-for-word translations that students tend to make. Shrum and Glisan (1994) state that writing should be taught as a process and not merely for the final product.

Redmond (1999) and Omaggio (1986) stress the importance of following steps to develop writing proficiency: pre, during, post and follow-up. Pre-writing exercises consist of activities such as brainstorming, creating outlines, reviewing vocabulary, grouping similar ideas, and writing journal entries, which help students start the process of writing. The writing stage consists of doing a rough draft followed by editing, and re-writing the final version. The post-writing stage involves an evaluation of the written work, whether it be through the use of a scoring rubric, traditional grading or portfolio assessment. Follow-up activities are also extremely important because they extend skills developed to other purposes. Omaggio notes that all the skills are and should be interrelated in the class for a variety of activities such as listening, speaking and writing.

According to Cowie (1995), students tend to respond to feedback more positively in the early drafts of writing while some students ignore feedback altogether. Semke (1984) states that students become frustrated with the traditional red pen method of error correction. The red pen shows the tendency on the part of the teacher to make negative comments rather than positive ones. Her research finds that students hardly read the comments made by the teacher, they often throw their papers away, and they continue to make the same mistakes in later writing assignments. Teachers need to respond to the process of writing more positively so students do not get discouraged as they make progress. Semke concludes that there is a direct link between student attitude and achievement.

Cowie (1995) states that second language teachers tend to correct surface errors, such as spelling and grammar, more often than global concerns, including problems with general organization. Although these surface errors are easy for the individual to correct, students also want and need assistance with the organization of their writing. Cowie (1995) also states that teacher feedback tends to be vague, unclear and sometimes even inaccurate, and it has little or no effect on improving second language writing proficiency. Teachers should provide clear, positive feedback in written assignments, including both surface errors and global errors.

Ihde (1995) examined student preferences on teacher feedback in written assignments. He researched the process of editing, where the student simply recopies the corrections which is the most common and direct error correction technique. Symbols highlighting the errors as well as coding and circled errors are more indirect techniques; in these methods, students discover their own mistakes as represented by the code. Summaries or comments at the end of paragraphs or compositions help in overall communication, and students reflect on mistakes made throughout the paper. Furthermore, teachers' comments provide more exposure to the target language.

Melville (1996) stresses that using authentic assessment such as portfolios adjusts for various learning styles, aptitudes and interests in the assessment process. A portfolio is a collection of written work throughout the semester or year and includes writing samples, photographs or videos of skits, and any other special assignments. Portfolios allow for a broader picture of what the student knows as opposed to more traditional assessment methods. Assessment of the portfolio can be done in many ways: the quality of assignments, improvement, progress, and/or organization of the portfolio. Portfolios increase confidence in writing ability because the student can see the improvement throughout the length of the course. This assessment method also helps the teacher provide feedback, monitor a student's progress, and it provides access to materials to show parents or others who are interested in seeing the student's work. Portfolios are rewarding to both students and teachers, and the teacher should always remember to include positive feedback to continue building writing confidence. Overall, portfolios are an effective way to track progress and they allow for student achievement at any level.

Methodology

The researcher distributed 100 surveys to high school Spanish students from two public high schools in Forsyth County, North Carolina. Ninety-six students from varying levels (I-V) of Spanish completed the survey. One class had 90-minute Spanish classes, and four classes had 48-minute Spanish classes. Students were given a questionnaire that focused on the following topics: 1) how the writing process is taught in their class, 2) the types of written work students do in Spanish, 3) the types of error correction used in class, 4) their attitudes towards error correction in doing writing assignments, and 5) anxiety experienced while writing formal assignments in Spanish. Two high school Spanish teachers whose students were surveyed and one middle school teacher from the same district in North Carolina were also interviewed. Using the questionnaires and the results of the interviews, the researcher analyzed the information about the types of written assignments done in class, the methods of error correction being applied, and the students' attitude toward error correction.

Results and Conclusions

According to the survey questions dealing with teacher expectations, foreign language teachers should make expectations clear before beginning a writing assignment in order for writing to be effective. Students (77.1%) feel more comfortable writing when expectations are known. The study also found that many foreign language students do not do pre-writing activities in the class (46.5%) or for independent assignments (21.7%). To assist students in the writing process, the teacher should lead the students through a pre-writing activity as well as encourage them to plan and organize before starting an individual writing assignment. Reviewing vocabulary words or grammar and outlining or brainstorming about the topic prepare the student for the writing process.

This study showed that 71.9% of students learn from and remember mistakes when teacher comments explain the mistakes clearly and thoroughly. The researcher found that lower level Spanish students (50.0%) ask more questions amongst themselves and often understand the concepts when another student explains them in simpler terms. Students in upper level classes (61.1%) rely solely on the teacher for clarification in the writing process. This study also showed that 30.5% of students surveyed feel the use of portfolio assessment would be beneficial to monitor progress throughout the course.

This research showed that error correction is needed for students to learn from their mistakes throughout the writing process. Rough drafts are a useful tool in writing in Spanish. A clear understanding of teacher expectations results in students feeling more comfortable writing in the foreign language classroom. In order for writing in the foreign language to be successful, it should be incorporated from the beginning of language learning, even if it is for simple activities. Students will benefit if the teacher guides them through the writing process with activities that precede and accompany the assignments along with activities that extend the language developed to other purposes.

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The Effects of Teacher Self-Disclosure in a Classroom That Addresses Controversial Ethical Topics

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In my two Introduction to Journalism classes, I spend a lot of the class time encouraging my students to discuss current events and the way the media handles controversial issues. As we discuss the news and its relationship to the world, I find that our class conversations begin to move towards discussions of ethics and human nature. Last year, I discovered that class discussions were enabling students to approach issues with which they may have been struggling and to offer their perspectives in a trusting environment. I felt comfortable expressing my beliefs, sometimes to simply test their reasoning and, at other times, to purposefully challenge their beliefs to make them uncomfortable enough to offer their opinions for discussion.

My research addresses the issue of teacher involvement in classroom discussions concerning controversial and ethically complicated topics. Do students' opinions change through our discussions or do they become more entrenched in their beliefs? What kind of effect does teacher self-disclosure have on the discussion? Are students more willing to speak if I am open or are they more likely to keep their opinions to themselves because of my strong ideas?

Review of Literature

The majority of research on teacher self-disclosure remains consistently in support of the teacher disclosing personal information to her classes. Studies from the 1970s to the present in psychology journals and teacher education articles indicate that this kind of intimacy or revelation impacts students' learning in a variety of ways and offers them an outlet for self-expression that may go beyond the classroom. The classroom atmosphere, created by the teacher, is a safe place for students to express their emerging opinions. While maintaining an environment of trust, the teacher may also create an atmosphere of dissonance called radical pedagogy where students-are made uncomfortable by teacher questioning, uncomfortable enough to form and express their opinions.

In a study of undergraduate students, McCarthy and Schmeck (1982) determined that males may be more responsive than females to the self-disclosure of the male teacher. They found that teacher self-disclosure encourages student self-reference in the student, a way for the student to relate to the teacher's experiences. As a result, the student's memory improves

Another significant part of the practice of teacher self-disclosure is the ethical effects a teacher may have on her students during a discussion. Ruth Grant (1996) begins her research with the idea that there is generally an ethical aspect to most conversations, and she questions the ethical impact of conversation in the classroom. She argues that the experience of critical inquiry, especially at the university level, conducted through dialogue, can foster and enhance ethical characteristics of those participating in a democracy. In his article, Joseph J. Galbo (1982) writes about the quality of relationships which can develop in a secondary classroom, arguing that the quality of the relationships between people determines the quality of life; specifically, the role of self-disclosure and the willingness and ability of participants to practice self-disclosure. Like Grant, Galbo emphasizes the importance of dialogue and how the lack of it is "a crisis for our times." He says that the teacher should be able and willing to enter into the relationships, not by being a peer, but by being an open and available resource for students.

While research indicates that a comfortable climate is conducive to student self-disclosure in classroom discussions, some educators practice radical pedagogy or a pedagogy of discomfort. In these classrooms, the teacher creates an environment where students are uncomfortable with ideas and discussions and, as a result, are encouraged to actively form opinions in reaction to discussion in the classroom. In her book, Feeling Power: Emotions and Education, Megan Boler discusses the power of emotional inquiry and how that urges one to act and speak, instead of passively accepting traditional values and mores. She argues that the traditional forms of education are outdated and that student conformism is the biggest threat to humanity compared to honest student self-disclosure.

Methodology

For this study, I observed my two elective Introduction to Journalism classes at Mount Tabor High School, a school of 1,600 in Winston-Salem, N. C. Mostly honors-level, the students' ages ranged from 14 to 18, yet a majority of the students in both classes are freshmen. Gender was not a consideration in my study. I formally observed these classes approximately 12 times over the course of eight weeks. In one class (Class A), I did not disclose my personal opinions; instead, I served as a moderator in the discussions. In the other class (Class B), I disclosed my opinions and ideas in every discussion, participating equally with the students.

I gave all students in both classes a 10-question Likert scale survey to determine each student's level of flexibility of thinking. From those surveys, I selected from each class a student who was more rigid and less open to new ideas than the others in the class, and I selected a student who appeared to be more flexible with new ideas. For the purposes of this study, I have assigned the two rigid thinkers with the names Ted and Emily, and the two flexible thinkers are Sally and Josh.

Results and Conclusions

In the class discussions, our topics fell into three distinct categories: (1) students' rights; (2) human rights; and (3) environmental or global issues. The discussions centered around students' rights created the most participation of the three. In the following section, I will focus on two specific discussions and the news events from which the topics arose.

In Class A, the current event was the tenth anniversary of the fall of the Berlin Wall. Our class discussion came back to the administration at our school and the "Big Brother" reputation they have because of the use of 16 surveillance cameras. The majority of the class seemed uninterested, and the discussion quickly ended. However, in the same discussion with Class B, where I am an active participant, I purposefully presented an opinion that students this day and age couldn't be trusted, and that there should be at least 16 more in the building. Led by Josh, the flexible thinker, almost everyone in the class wanted to speak, and disagree, and the discussion moved from the surveillance cameras to student privacy issues to the First Amendment.

The most interesting discussion was in response to the news piece which focused on a gunman in Hawaii. In Class A, the non-disclosure class, the discussion was interesting to moderate as the class spent most of the class period discussing Columbine High School and the events of last spring. The discussion was not animated; in fact, Ted, the rigid thinker, fell asleep. Sally frequently participated in the discussion but usually offered her opinion rather than ask questions to indicate her need for more information.

In Class B, the disclosure class, however, the discussion on handguns moved into the differences between males and females, role models, violence on TV and sexual stereotypes. I disclosed my intense feelings about guns to the class, telling them that I had never owned a gun and that I was afraid of them. They posed questions directly to me such as, "What if someone were robbing your house? Wouldn't you want to shoot him?" I responded with an emphatic "No." Several of them laughed at my opinion, but a majority of the class (58%) agreed with me. I continued to ask for explanations as to the acceptance of violence in our society with the purpose of creating an environment of discomfort in which most of them would feel compelled to speak.

Josh, the flexible thinker, took control of the discussion to talk about anger management and how males differ from females in the ways that they express themselves when they are angry. He said, "Too many people are taking drugs which will help them control their anger. Maybe that is what males so prone to physical acts when they are angry. Look at the cavemen, the pioneer boys and even the boys now. "They all have some kind of toy weapon to play with. If the parents take the toy guns away, boys will pick sticks and play cowboys and Indians."

A female in the class, a consistent participant in discussions, said, "It is unladylike and improper for girls to act violently. It seems that society accepts the fact that boys will fight and will express themselves through anger. People say, 'Oh, he's just a boy. He's supposed to act like a Ninja turtle.'" I asked, "But why is shooting someone even an option if you are angry? How come society has allowed that method of expressing anger to be acceptable for a growing number of people?" The students took the discussion into the issue of violence on TV and in movies.

My research supports the literature that suggests that teacher involvement and disclosure in ethical discussions leads to more active discussions with higher student participation. It also supports the idea that creating an environment of discomfort is useful in encouraging students to explore their ideas and to express them as well. However, there are some observations that require careful attention.

I think that the way a class discussion proceeds does not depend solely on the teacher and her participation in it. However, the teacher becomes the center around which the students are comfortable speaking. Teacher involvement consistently leads to more, ethical discussions and higher-level thinking through processing ideas.

The negative side of teacher-disclosure is that classroom management becomes more difficult. As I purposefully presented the opposite opinion of most of the class, I observed louder talking and impatience as they turned to each other to express themselves rather than wait their turn. I also experienced some frustration in making sure that each of the 30 students had a chance to speak. As I became a participant in the discussion, I also lost some of the authority as a teacher which contributed to the behavior management issue.

Interestingly, according to the post-research survey, Class A, the non-disclosure class, was more interested in my opinion than Class B. Class A was also more aware of the discussion and its relationship to the current news event compared with Class B. However, Class A's discussions were not as multi-leveled; the students did not shift from topic to related topic like Class B. While 99% of the students in both classes were always comfortable with the topic of discussion, Class A did not show high participation levels like Class B. Class B, because of my disclosure and purposeful uncomfortable questions, discussed more ethically challenging topics.

Observing Ted, Sally, Josh and Emily, I found that typically Ted and Emily did not participate in the discussions unless they were highly invested. Often Ted, a rigid thinker, would sleep through the discussions. When confronted about his behavior, he said, "If it doesn't concern me, then I don't care." He was very opinionated when he spoke and was clearly not interested in changing his mind. Emily seemed to be shy and only spoke up when she had a strong opinion. She often became frustrated with the immature students in the class. Sally remained flexible through most of the discussions, interested in new ideas. Josh, a flexible thinker, consistently provided the class with ideas and some humor, offering alternative ideas to the class throughout the discussions. He seemed interested as he listened to his peers.

Overall, Class A was more attentive to my ideas, yet participation levels were lower. Class B showed higher levels of participation yet, at times, they were not interested in my disclosure. However, the discussions were rich and full of lively discussion that offered these high school students an opportunity to question ethical situations and articulate them in an environment that was safe for them. I will continue to practice teacher self-disclosure to encourage my students to test their own developing sense of ethics.

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Student and Teacher Attitudes Toward Technology

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Introduction

One of the important reasons for educating social studies students is to open their eyes to the world surrounding them. The history and current events of the world are extremely important for adjustment into American society. Many researchers have studied the use of technology in helping students to become more familiar with, prepared for, and able to adapt to society. While many researchers focus on the various aspects of technology, the study will focus on teacher and student attitudes about technology and improving the use of technology as a classroom tool in teaching social studies.

Literature Review

Researchers have studied various techniques and tools used in teaching. Smigielski (1995) studied science-based technology and how it influences student's ideal about American society. He noted that we seldom realize the impact that technology has on the lives of everyday citizens. In the study, students were encouraged to think about the big influences science-based technology had on American society in the 20th century. The study concluded that computer technology, having such a powerful effect on American society, should lead to an equally positive effect in the classroom.

Other researchers studied the use of media activities in unison with core classes to see if this approach benefited students. Dresang (1982) analyzed student's attitudes in response to media activities. Dreesang sought to identify those media influences that had positive effects on student attitudes. He used instructional media on the topics of mainstreaming and disabilities which were chosen according to either student-expressed interest or teacher/media specialist perceptions of student interest. One hundred twenty students were pre-tested and post-tested to determine their attitudes about each topic. They were then given more information about the topic via the media in the classroom. The researchers conducted follow up interviews with 16 students to determine their feelings of the presentation. They found that those receiving media information had a more positive attitude about the topic.

Honey (1990) examined teachers' beliefs and values that influence the successful adaptation of microcomputers into curricula via interviews. Responses were categorized into four groups: successful technology integration, progressive practice and technological ambivalence, technological reluctance, and lack of opportunity. Each group was analyzed in terms of classroom and various educational factors such as teachers' perceptions of themselves and their students, integrating technology into the curriculum, and envisioning future classroom environments. Honey found that unless teachers are personally ambivalent about computers or lacked the opportunity to have access to technology, their personal beliefs about technology played a very important role in how they chose to incorporate technology in their classrooms. Honey's study suggested that teacher computer awareness in needed.

Ehman and Glen (1987) focused solely on computer-based teaching in social studies. The study analyzed the significance of computers and how they affect learning and classroom environments. They explored teacher's competencies and instructional analysis with computers. The research indicated that computers are instructional tools that can help develop positive attitudes, intellectual motivation, and inquiry stills.

Ehman and Glen further stated that social studies educators should implement computer use in their classrooms because it "assists in the preparation of students for effective participation in society." The researchers stated that teachers need to understand how technology affects instruction and learning in the classroom because it can help achieve specific goals. They concluded that computers have not revolutionized social studies curricula because so few teachers can use them and in order for technology to be effective in the classroom, educators must acquire knowledge of appropriate and effective technology use.

Freiwald (1997) conducted a study that reviewed literature regarding the use of computers in elementary social studies classrooms to determine how computer usage aligns with the constructivist approach to education. Freiwald divided computer use in social studies into three categories: instructional software, productive software, and computer-based reference tools. The study examined each of the categories with specific examples for usage in classrooms. Problems that were related to computer use in social studies instruction included proper training of teachers, traditional lecture methodology, lack of proper technology support in the schools, the misuse or improper use of technology, and the overall cost of technology with resources available to schools. The study concluded by offering suggestions for effective computer use in the classroom, such as instructional courses for teachers, resourceful web sites, and correct usage of computer technology.

Methodology

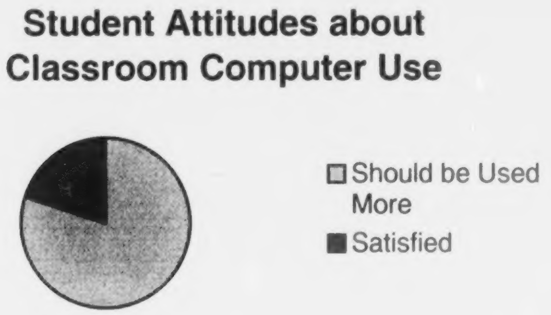
The study took Freiwald's research one step further; it analyzed teachers' and students' opinions about the use of technology and its effectiveness. The researcher determined the effectiveness of technology on learning and performance by analyzing the responses to questionnaires given to teachers and students high school classrooms.

Subjects were high school students in the Winston-Salem/Forsyth County School System. Five classes from each of two high schools, approximately seventy students, participated in the study. The students were mostly juniors, but sophomores and seniors were also included.

The two teachers in the study were instructed to answer a questionnaire about the use of technology in the classroom. They were also instructed to give a similar questionnaire to their students. The questionnaire results were analyzed to determine percentages and ratios. The analysis was converted to data that can be easily translated.

Results and Conclusions

A total of sixty students responded to the survey. The research discovered that 45% of students use computers on a moderate basis to assist with the learning of social studies. 3% reported that they never use computers and another 3% reported that they used computers regularly. When students were asked how often their teacher used television and VCR in the classroom 47% said sometimes, 0% said never, and 8% said always. 80% of the students reported that they would like to see more technology used in the classroom and 20% reported that they were satisfied this the way things are.



The students stated that they sometimes used computers to learn social studies. They often used television and VCRs. A large percentage of students preferred that their teachers used more technology.

The teachers reported that they would like to use computers as a teaching aid but they were limited by the lack of equipment in their classrooms. They recognized that students would like and would benefit from the use of technology.

In summary, both students and teachers want and need more technology in the classroom. With assistance and support from administrators, technology will improve teaching and learning in the social studies classroom.

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Immediate Corrective Feedback and Classroom Performance

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Since Gilman's study in 1969, it was known that the ability to provide immediate feedback is an advantage of computer assisted instruction (CAI) over other forms of instruction. Even though a variety of studies have been done about the amount and type of feedback, generalizations about feedback and retention are unreliable (Dempsey and Litchfield, 1993; Lee and Dwyer, 1994). Therefore, there is a need to find a correlation between immediate corrective feedback for out of class on-line quizzes and in class performance.

Review of literature

The most basic feed back response is an indication of "right" or "wrong" known as "correctness of response" (KOR). "Knowledge of correct response" (KCR) indicates the correct answer for right and wrong responses. "Answer until correct" (AUC) feedback allows the user to answer the question more than once.

Gilman (1969) was concerned with immediate feedback that occurs directly after the user's response. Delayed feedback is provided after several responses, or once all questions have been answered (Bardwell, 1981; Clariana, 1992; Sassenrath, 1975). These many forms of feedback have been used in a broad spectrum of combinations in CAI feedback research.

According to Skinner a simple KOR message acts as reinforcement of the correct response for future retention (Terrell and Rendulic, 1996). Clariana (1992) concludes that feedback on lesson questions is good practice because it allows a framework for constructing correct answers on the posttest. The implication is that the more informative the feedback, the better (Birenbaum and Tatsuoka, 1987).

Bardwell's (1981) results show delayed feedback as correctional information had a significant effect and supported the idea of response perseveration. Delayed feedback provides time to forget incorrect answers before learning the correct answer. Whereas immediate feedback encounters "response competition" as the student is still processing an incorrect response. Delayed feedback, then, promotes better delayed retention (Sassenrath, 1975).

Depth of processing includes active examination of information (Morrison, Ross, Gopalakrishnan, and Casey 1995). When the amount and type of information in the feedback are predictors of correction, the result would be longer study time to accommodate depth of processing (Kulhavy et al., 1985). The results show the more complex feedback performed other than expected because of depth of processing. It is the common belief that more complex feedback requires more effort (depth of processing).

Based on Skinner's operant behavior theories Terrell and Rendulic (1996) hypothesized that weekly feedback would increase intrinsic motivation. The data showed a correlating rise in motivation due to immediate feedback. Also, the absence of feedback equaled a decline in motivation. Overall, learner motivation may be the most critical factor. What may be clear is feedback does not encourage motivation, but motivation must exist before hand.

The purpose of this study is to see if immediate corrective feedback for out of class reading comprehension questions enhances in class performance, i.e. class discussion and exam grades. The researcher will measure the cumulative effect of feedback over time, and use the test results to correlate feedback to retention and increased ability to discuss the material. Important questions are: Is there a correlation between quiz scores and class participation? and is there a correlation between quiz scores and exam grades?

Methodology

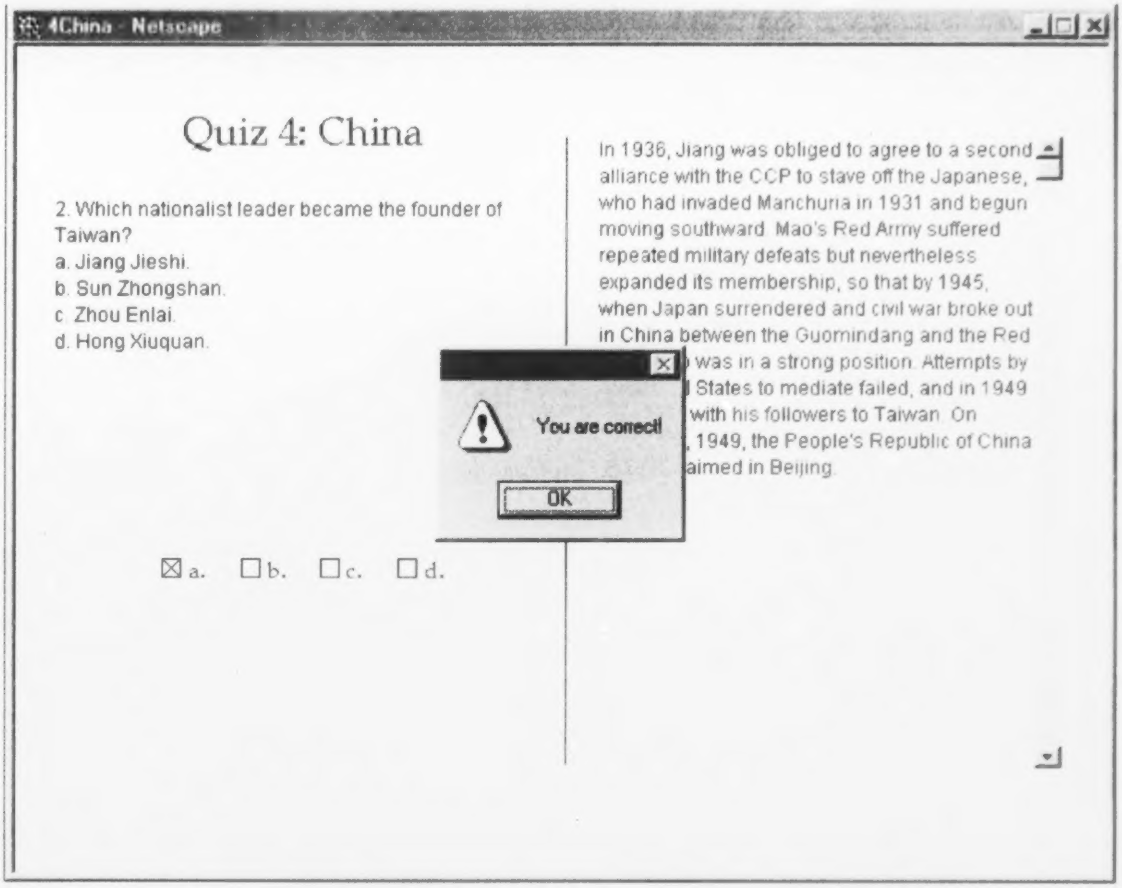
Subjects: The subjects are 32 college juniors and seniors in a class at a private, liberal arts university. They had no previous knowledge of the study before registering for the class and were never informed of its exact nature.

Materials: The materials needed for participation were provided by the university through regular matriculation including Internet access and Shockwave capabilities.

Design: The quizzes consisted of 20 multiple-choice questions, each with four possible answers. The feedback was a combination of AUC and KOR, with responses of

"Please try again," or "You are correct." Incorrect answers were accompanied by guided text or a reference to the text book (see Figure 1).

The quizzes were scored as follows: five points were given for a correct response on the first try, and a loss of one point for each additional try. The score was automatically recorded and sent electronically to the professor.



Quiz 4: China

2. Which nationalist leader became the founder of Taiwan?
a. Jiang Jieshi.
b. Sun Zhongshan.
c. Zhou Enlai.
d. Hong Xiuquan.

You are correct!

☒ a. ☐ b. ☐ c. ☐ d.

In 1936, Jiang was obliged to agree to a second
alliance with the CCP to stave off the Japanese,
who had invaded Manchuria in 1931 and begun
moving southward. Mao's Red Army suffered
repeated military defeats but nevertheless
expanded its membership, so that by 1945,
when Japan surrendered and civil war broke out
in China between the Guomindang and the Red
was in a strong position. Attempts by
States to mediate failed, and in 1949
with his followers to Taiwan. On
, 1949, the People's Republic of China
aimed in Beijing.

Figure 1: Quiz question with KOR feedback for

The participation grade was cumulative and took into account both the number of times a student contributed to a class discussion and the quality of the contribution. The written exams were a combination of objective identifications and essays.

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Procedure: The class was randomly selected from the courses offered during the fall semester at the university, and subjects were members of an ongoing class. All thirty-two subjects signed the consent form agreeing to participate.

Quiz scores and participation grades were reported to the researcher approximately every four weeks by the professor. A written mid term exam grade, as well as a mid term participation grade were reported to the researcher. A final written exam was administered at the end of the semester. The final examination grade, an overall participation grade, and an overall course grade were reported to the researcher by the professor.

Results

Formal statistical analysis was conducted using the Pearson r correlation for two variable, interval data. The quiz score and class participation variables at mid-term had a positive relationship at the 0.05 level (p=0.015). Likewise, the quiz score and mid-term exam grade variables displayed a positive relationship at the 0.05 level (p=0.035). Five weeks later the correlation for the mean quiz scores and participation scores was significant at both the 0.05 and 0.01 levels (p=0.003). Final course data was unavailable due to time constraints related to the end of the term.

Implications

The statistical analyses showed that the relationships exist at a significant level as predicted. Clariana (1992) described the relationship between the corrective nature of immediate feedback as constructing a framework in the learner's mind for correct answers. However, Bardwell (1981) and Sassenrath (1975) both pointed out the advantage of delayed over immediate feedback to avoid response perseveration. The combination of guided text and AUC in the quiz design may have promoted more depth of processing, explaining the significance of the quiz to exam score relationship. However, the quiz score to participation correlation results were also consistent with Terrel and Rendulic's (1996) about immediate feedback and motivation based on Skinner's suggestion that feedback is reinforcement. This fact leads one to question the amount of depth of processing that took place.

A more significant relationship between quiz scores and participation (p=0.015) than quiz scores and exam scores (p=0.035) at mid term implicates a closer tie between feedback and motivation than with retention. Because the relationship between quiz scores and participation sustained itself over a long period, it implies continued feedback as good educational practice. Terrel and Rendulic (1996) would agree because they found after removing feedback there was a decline in performance.

Overall, the results support a relationship between immediate corrective feedback and class performance. There is a positive correlation between quiz scores and class participation, and between quiz scores and exam grades. More research is needed about the role of motivation and depth of processing in the feedback-performance relationship.

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Students' Perspectives of Title IX and High School Athletics

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Introduction

> "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational programs or activity receiving federal financial assistance." (Valentin, 1997, pg. 2)

Since the 1972 passage of Title IX, the first comprehensive federal law expressing the rights of students to be free of sex discrimination, opportunities for girls have risen in athletics (Durrant, 1992). At all levels of athletics, from elementary to collegiate, there are more opportunities for girls. However, there have been some questions about how equal the opportunity is for girls in high school.

Review of Literature

Title IX pushes all levels of athletics to compare and evaluate the quality of the men's and women's athletic programs. Programs are judged when it comes to equity in the following areas: funding, equipment, scheduling, travel and allowances, coaching, locker rooms and other facilities, and opportunities for sports participation (Priest, 1994).

Prior to Title IX, equipment and facility disparities were common. Many times the boys would have new equipment, while the girls received the hand-me-downs. The boys also tended to have nicer uniforms (Durrant, 1992). Often the girls' gym and locker rooms were not as big or well equipped as the boys' gym and locker rooms. Today, some would argue that equipment and facilities are still not equal. Jaffee and Ricker (1993) studied equity using focus groups, questionnaires, and a group discussion. They found that girls talked about boys being favored by the system. One girl said, "They (the boys) get better coaches, more time, you know, fields to play or whatever…" (p. 24).

One area of concern for some groups is coaching. Title IX did increase opportunities for girls to play sports; on the other hand, coaching opportunities seemed to decrease for women (Weiler, 1998). In the past 25 years, the number of female coaches coaching women's teams has decreased from 90% to 48% (Valentin, 1997). A higher percentage of males were hired as head and assistant coaches of all sports except girls' tennis and volleyball (Sisley, 1986). She attributes this to the fact that there were more opportunities for women in volleyball and tennis. In programs such as softball, basketball, and soccer, she observed a pattern of hiring a male head coach and a female assistant. Since the need for a female role model as a coach is necessary, Sisley (1986) recommends that administrators try to recruit females into the head coaching roles when they have the background necessary.

In a study by Brylinsky (1993), girls' high school basketball players from 21 high schools in Iowa were given a survey to determine their feelings on coaching. Results indicated that females prefer female coaches when the coaching candidates are equal in ability. The only time male coaches tend to be preferred is when the male coach has a substantially better winning percentage or success rate than the female coach.

Another area of concern for equity involves access to sports or opportunities for girls to play sports. Low-income girls only have opportunities in schools and most are pushed into the "popular sports:" basketball and track. Volleyball, swimming, dance, gymnastics, and tennis are sports that are often more common in private organizations than in schools. Many of the lower income females don't have the same opportunities to compete in these other sports. Sabo (1986) found that there were not as many positive effects of athletics in urban schools. He attributes this finding to fewer resources being available in urban schools.

Hanson and Kraus (1998) used data from a nationally representative longitudinal survey of high school youths starting in their sophomore years and having follow-up interviews in their senior years. They looked at the data of 11,683 students and the relationship between sports activity and science achievement. They found that a sport had more of an effect on the science achievement of females than males when they participated in a sport. The effects were also stronger in their senior year than in their sophomore year. They also found that sports participation had a strong positive effect on their access to science and on their attitude toward science especially in the senior year. Spreitzer (1994) and Sabo (1986) also found athletics to be associated with higher grade point average and higher standardized test scores, respectively. Furthermore, Sabo (1986) found minorities scored higher than their counterparts, and specifically Hispanic females were less likely to dropout.

Spreitzer (1994) also found a negative relationship between delinquent behavior and sport participation. If a student were involved in sports, the student was less likely to be involved in delinquent behavior. It was found that the coach's rules may have had some impact on behavior (Spreitzer, 1994).

With all the positive benefits mentioned, steps need to be taken to ensure an increase in opportunities for young women as well as community awareness of the success and opportunities available (Weiler, 1998). If the community begins to push female athletics, then maybe all the benefits of participating in sports will become more prevalent in all genders and races.

This research examined students' perceptions of high school athletic programs as well as discovering their knowledge about Title IX.

Methodology

Questionnaires were given to 266 female and male high school students from a variety of classes at four different high schools. There were 53 male non-athletes and 45 female non-athletes. The rest of the students were athletes, 79 females and 91 males.

At the beginning of the questionnaire students were asked their gender and if they participated in sports. There was one open-ended question to determine the students' understanding of Title IX. The remainder of the questionnaire was used to determine their perceptions of equality in athletics at their respective schools.

As for the perceptions of the students, scores ranging from 0 to 7 were tallied using the last group of 7 questions: 1 for yes and 0 for no. These results were used in an ANOVA to determine if gender and sports participation had an effect on students' beliefs about Title IX compliance.

The open-ended question was analyzed to determine the students' basic understanding of Title IX. A percentage of correct responses was found.

Results and Analysis

Table 1: Students' perceptions of Title IX compliance scores: Descriptive Statistics

Gender	Athletic	Mean	Std. Deviation	Number
Male (M)	No (NA)	5.14151	1.9358	53
	Yes (A)	5.6813	1.5411	91
Female (F)	No (NA)	4.6047	1.7880	43
	Yes (A)	2.7722	2.0125	79

Table 2.

Students' perceptions of Title IX Compliance: ANOVA Results

Subjects	*df*	*F*
Gender	1	64.175*
Athletic	1	11.379*
Gender x Athletic	1	20.431*

*p < .05

Table 3.

Students' perceptions of Title IX compliance: Scheffe' Results

Subjects	*F*
MNA vs. FNA	4.756*
MNA vs. MA	0.724
MNA vs. FA	67.589*
FNA vs. MA	10.325*
FNA vs. FA	28.524*
FA vs. MA	109.17*

*p < .05

Even though the research shows the importance of Title IX providing opportunities for girls that can enhance many aspects of their life, only 45% of the students surveyed understood some objectives of Title IX. Furthermore, the wording of the question could have been misinterpreted slightly because of the phrasing "means to you." Some students may have interpreted this to mean what effects does Title IX have on you. For these reasons, this percentage may not be an accurate measure of the students' knowledge of Title IX.

After looking at the data, it was found that there were significant main effect differences in the perceptions of males and female as well as athletes and non-athletes. Since there were significant interaction differences between gender and athletics, a Scheffe' test was done to see specifically what groups were different. Specifically, only

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one pairing, male athletes and male non-athletes, did not have significantly different views on the equality of athletics.

The male athletes as well as non-athletes perceive that there is more equality in athletics than both the female athletes and non-athletes. The greatest difference was in the perceptions of the male and female athletes, with male scores significantly higher. Overall, males tend to see schools providing equal treatment to all athletes, whereas females see the schools as treating males more favorably. The most surprising result was the significant difference in beliefs among females. The female non-athletes believed there was more equality in athletics than the female athletes reported. This could be due to the fact that female athletes are more involved; therefore, they see the inequities daily, but female non-athletes only see the obvious inequities are not the day to day ones.

As a result, schools, parents, coaches, and the community should do a better job of making sure that girls are given equal opportunities. Also schools may need to further evaluate the inequalities that the girls perceive. The girls' need for schools to hear their concerns and either correct the problems or correct their misperceptions.

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Classroom Seating and Student Anxiety

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This study results from observations made by the researcher over the last several years of classroom teaching. These observations suggested to the researcher that students exhibit a "territoriality" in maintaining their chosen position in the classroom seating arrangements and often become agitated by changes. Is this observed behavior a result of instinct or anxiety on the part of students in high school classrooms? Because anxiety can be a cause of low achievement in the classroom it is important that educators be aware of classroom arrangements that can facilitate or impede student behavior.

It has been noted that many animals exhibit territoriality characteristics. These characteristics explain not only certain animal behaviors, but also aggression toward strangers. Does aggression in adolescents, exhibited when seating arrangements are changed, stem from some of the same territorial characteristics? The answer to this question is no. Although Jane Goodall and other anthropologists have noted some territorial behavior between genders in higher primates, most agree that higher primates exhibit none of the other territorial characteristics of lower primates or other mammals. Therefore, exhibited anxiety in adolescents over changes in classroom seating arrangements must be a result of some other cause.

This study was conducted to determine what that cause is and how to alleviate that anxiety. Where a student sits is not as important as who the student chooses to sit near. Teachers should create a classroom culture where adolescents are comfortable and feel secure, as they become independent learners. Therefore, teachers must foster an atmosphere where students can speak freely while at the same time valuing and listening to diverse opinions of their peers.

Problem Statement:

Does the rearrangement of classroom seating affect students' anxiety levels and therefore their achievement and social well-being?

Review of Literature:

Observational studies of classroom participation have revealed that student contributions to class discussions originate more frequently in certain areas of a classroom than others (Totusek & Staton-Spicer 1982).). The majority of the research done on seating arrangements has been done at the college and elementary school level. High School adolescents present different problems because of their social development Knowing why a student chooses and defends a certain position in the seating arrangement of a classroom can offer teachers a clue to facilitating the cognitive and social growth of that student.

Educators work to vary their teaching methods according to what each student in the class requires, but seating arrangements are often designed to fit the needs of the teacher without much regard to individual students (Wengel 1992) and their comfort level within the classroom (anxiety). This disregard is in direct opposition to Constructionists who point out that interaction is crucial to learning (Newman). Wathen (1997) argues that peer interaction actually helps to develop higher cognitive thinking skills when students engage in group explanatory activities that include generating hypothesis, making plans or predictions, and providing justification. A major theme of Vygotsky's (1978) social development theory emphasizes that learning is a socially mediated activity. It is necessary for teachers to take part in constructing a classroom that permits social interaction and promotes student comfort.

Methodology:

Teachers and students in two math classes, two English classes, two science classes, and two social studies classes at a senior high school located in Piedmont North Carolina were the subjects in this study. The teachers and students in these classes were asked to participate in the study on a voluntary basis. The classes were selected based on teacher willingness, not because of level or particular content material to be taught. Some students from each class were selected by the classroom teacher and interviewed by the researcher to determine their perception about the classroom arrangements.

One core class from each discipline had teacher-assigned seats while the other matching core class allowed students to determine their own seating preference.

At the beginning of the school year, teachers in the Math, Science, English and Social Studies Departments were offered the opportunity to participate in the study. Since there are more than two classes in each department, those teachers who agreed to participate were randomly selected within each department. Students in each selected class were given participation letters to be sent home and signed. The teacher assigned seating arrangements in one math class, while the seating arrangement in the other math class was determined by the students. This pattern was repeated in the other core classes.

About every three weeks, the teacher re-arranged the desks prior to the beginning of class (without student knowledge). The classroom teachers observed student reactions to the new room arrangement. This re-arrangement occurred 3 times during the semester and all students were given a written survey to complete after the last move. Students, in groups of five, were videotaped as the researcher interviewed them. Teachers were also interviewed after the last seating arrangement to note their observations about student behavior before and after the new seating arrangements. Teachers were also surveyed about their reaction to student perceptions after the data was compiled. The researcher then compiled the data and analyzed student and teacher perceptions about behavior, achievement, and comfort levels (anxiety) concerning classroom arrangements.

Results:

Student surveys were collected after the 3rd seating arrangement and tabulated. The Likert Scale offered the following choices*: Strongly Agree, Agree, Don't Care, Disagree*, and *Strongly Disagree.* Under the "Where I Sit Helps My Behavior" question, each category was tallied. The majority of the students surveyed fell between *Strongly Disagree* and *Don't Care* - 66%. Under the "Where I Sit Helps My Grades: question, each category was tallied. The majority of the students surveyed fell between *Strongly Disagree* and *Don't Care* - 58%. The percentage of the students in this category was slightly less than that of the "Behavior" category. A few students admitted during their interview that moving away from a talkative peer helped them concentrate more. Another student told me that if she were placed near a student that she didn't like, she would ask the teacher to move her even though she said she didn't care where she sat in the room. Again, placement near peers was the primary concern.

In the classes where students were able to choose their seats, most agreed that they chose to be near friends and when they changed locations they moved with their friends. One student mentioned choosing seats near friends because when the class did group work, the teacher generally assigned group members from students sitting near one another. If a student didn't know anyone in the class, then location became important. In classes where the teacher assigned the seats they were more concerned with comfort (anxiety) levels. They agreed that teachers should put a student where they are comfortable. Adolescents spend much of their time seeking peer approval and fitting in is most important. Feelings of standing out or not fitting in can cripple a student's ability to be actively engaged in learning.

Teachers stated during their interviews that students' reactions to the new seating arrangements ranged from confusion about where to sit to easy movement to another location. Teachers admitted that some students were deliberately assigned seats that placed them nearer the teacher for behavior modification.

The overall perception on the part of the teachers was that behavior is definitely tied to where a student sits in relation to their friends. This perception seems to belong to the majority of teachers and to the minority of students. In discussion with teachers their major concern about student placement is focused on control in the classroom. For students, the concern about placement is on comfort, being near friends. The teachers interviewed felt that a controlled environment was more suitable to teaching students.

Conclusion:

The student survey responses demonstrated that seating arrangement had little effect on their behavior or grades. Because of the social development adolescents struggle with, it is important that teachers become sensitive to situations that make students uncomfortable, including the choice of seating in the classroom. Student selected seats are preferable to those chosen by the teachers for they allow adolescents to find comfortable niches in the room that will ultimately enhance their learning

There is a prevailing thought that if students sit quietly in their seats and are on task, then learning is occurring. My students have always told me that is not what helps them learn. I would agree. My experience has shown that student achievement is enhanced when they are actively engaged. However, being engaged does imply activity, at least mentally. Most teachers are aware that games and group work are the teaching strategies that are most enjoyed by students, but these activities present the most challenge for teachers. When students are excited about learning there is a lot of activity and usually noise results. The teachers interviewed expressed concern for controlling behavior when discussing how they perceived the use of seating arrangements. It is curious to this researcher that the teachers never used the phrase "learning" during the interviews. It is as if learning, behavior, and grades do not necessarily go hand-in- hand. Implied is the notion that being quiet equals being engaged. Adolescents are social beings, as are all primates, and to take the "social-ness" out of learning would seem contradictory to the process. When students are actively engaged they are learning. To become actively engaged, students must be anxiety-free. If we as educators are to promote learning, we must first of all take anxiety out of the classroom and secondly, we must design activities that promote engaged minds. Seating arrangements are the first step in the process of creating a classroom environment where adolescents can feel comfortable. Students define being comfortable as being near people they consider friends.

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How Use of Multimedia Affects Student Engagement and Attitudes in English Literature

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Introduction

American high schools stress English literature as an integral part of the high school curriculum. Some students have never mastered the reading or writing skills necessary to be successful in English literature. Their struggle to successfully master these skills often leads to negative attitudes about English class. Consequently, many students loose interest and become disengaged from the class. Other students' negative attitudes about English literature class stem from the fact that they are bored with the teaching styles of their English teachers. They are not being actively engaged. The answer, according to many educators, researchers, and scholars, may be found by using multimedia in the English literature classroom. The purpose of this study was to find out what and how often media is being used in English classrooms, how teachers and students use it, and how this use of multimedia affects student engagement attitudes in their English class.

Review of Literature

A review of related literature shows that technology and multimedia use is on the rise in English literature classrooms across America. Some researchers believe that using multimedia in the English literature classroom helps teachers keep students engaged because of the interactive aspect of multimedia, which may help student achievement. Others believe there are problems with using multimedia as a teaching tool, such as a lack of resources, and improper use of multimedia that is available.

Hofmeister (1990), and Williams & Crowell (Lee,1998), came to the conclusion that multimedia use in the classroom allows for a more interactive, tactile learning environment. Hofmeister states: "Technological teaching tools can make a substantive difference in the quality of education if they serve to capture, crystallize, and disseminate the essence of the teaching profession, namely the practices of effective teachers."

Drake (1994) asserts that teacher use of multimedia can draw out student interest in traditional texts in the English classroom. She feels, however, that films, video, and other media should be used to reinforce a concept, not replace it. Finklestein (1995) agrees with Drake about the advantages of using media in the classroom. She states: " I want to suggest that we use videotape as a way of enhancing our students' experience of the literary text and enriching their experience of the work as a whole."

Hobbs (1999) found, after talking with many teachers, that some have concerns about competing with TV and other media for their students' attention, and they also worry about the messages TV sends to adolescents. She concludes, however, that, "nearly all agree that media culture is an ingredient in young people's lives that can be mobilized to support classroom learning."

Last, Newman (1984) and Berry (1997) discuss new uses for media that create feelings of student ownership in the classroom. Newman found that the use of computers in the English classroom promotes better writing and language skills because the students are encouraged to take risks in writing that they wouldn't normally take due to the easy editing that can be done. Berry went online and found classic texts, made copies, and allowed his students to write all over them. A handicapped student in his class was supplied with electronic texts that allowed him to scroll down the text on a computer without the help of an aid. His students felt ownership of these texts. Berry concluded: "the marked and mangled pages show evidence of learning."

Methodology

Subjects for this study were two tenth grade Standard English literature teachers and their students. The high school chosen for the study is a large high school of approximately 1,700 students in a suburban area of Winston-Salem, North Carolina.

Observation data was collected in ten, 48 minute visits to each classroom. First, narrative data was collected as field notes. Because the researcher did not use the names of the teachers or students involved in the study, each teacher and student was given a number that the researcher used in recording data. Other data about student attitudes was collected at the conclusion of the study using a nine- questionnaire constructed by the researcher. The questions were open ended asking information about what media is used in their English class, how they feel about this use, how comfortable they are with using multimedia, and if they would like to see more or less media in their English class. No other instruments were used in this study.

After all data was collected, it was synthesized using four charts. On the first chart, the researcher categorized the types of multimedia used during each observation period by each teacher and his or her students. The purpose of this chart was for the researcher to determine what media teachers and students used, and how often they used it. Percentages were derived about what kind and how often multimedia was used from this chart. The second chart categorized student engagement in the observed lessons by their verbal responses to them. Verbal responses ranged from and were coded as no response, short response (5 words or fewer), short thoughtful response (5 words or fewer demonstrating deep thought about lesson), lengthy response (more than 5 words), or lengthy thoughtful response (more than 5 words demonstrating deep thought about the lesson). The third chart coded the aforementioned verbal responses as positive or negative based on verbal content, which showed student attitudes toward the lesson being taught. In the fourth chart, the researcher looked at student non-verbal responses to the lessons taught. The researcher determined how engaged the students were in the lesson by looking at body language and time on task. The codes used indicated time on task: engaged (on task 43-48 mins.), somewhat engaged (43-30), not engaged (30 mins. or less).

Data collected from the questionnaire was synthesized separately from the field notes. From these responses, the researcher drew conclusions about what media are used, how often it is used, and student's engagement and attitudes, and correlated these findings with the other data.

Results

Teacher One used multimedia 20% of the time the researcher observed. Only 10% of media used was instructional. Teacher Two used multimedia in the classroom during 50% of the researcher's visits. Teacher Two's use of multimedia was entirely instructional. There was no multimedia use by students in either class during the researcher's ten visits. Last, the media most used by both teachers was movies, or films.

Overall results from chart two show that students of Teacher Two made more long, and more thoughtful responses to her lessons that did the students of Teacher One. Teacher One had a total of 4 verbal responses. Two responses were short and two were long. Teacher Two had a total of 15 responses. Ten were short responses, 2 were long responses, and three were lengthy thoughtful responses. The responses from both classes were not all about lessons that were taught using multimedia. Teacher One had 3 comments about non-media lessons, and had 1 comment on a media lesson. Teacher Two had 6 non-media comments and 9 media lesson comments.

The researcher took the verbal responses from chart number two and coded them as either positive or negative according to the content of what was said about the lesson. Of the 4 responses from the students of Teacher One, 2 responses were positive and 2 were negative. Teacher Two had 13 positive and 2 negative comments about her lessons. It is important to note how many of each type of verbal response were positive or negative. Teacher One had: 2 short positive responses, 1 lengthy positive response and 1 negative lengthy response. Teacher Two had: 9 short positive responses, 1 short negative response, 1 long positive response, 1 long negative response, and 3 positive long thoughtful responses.

The researcher observed student body language in addition to verbal responses to determine student engagement. The researcher found in ten visits that Teacher Two had a total of 171 instances of student engagement, while Teacher One had 123 instances of student engagement. The difference in the number of students attending each class was only 2. Teacher One had 18 students, and Teacher Two had 20 students. Teacher One had a total of 24 instances of somewhat engaged students, and had 31 instances of non- engaged students during the ten visits. Teacher Two had a similar 20 instances of somewhat engaged students, but only had 9 instances of non- engaged students. These numbers indicated that levels of engagement in both classrooms were high, although Teacher Two, who used 30% more media in the classroom, had a significantly higher level of engagement.

The questionnaire was the last measure of data. Results indicated that 34 of 40 students would like to see more media use in their classrooms. Thirty-six of 40 students see media as a positive teaching method. Two students answered that media is negative because "It takes the place of literature," and, "Some people fall asleep during movies." Students indicated that they feel comfortable with media, and 31 of 40 students feel that media is fun and it helps them learn.

Conclusions

The researcher concluded that overall, student's attitudes were positive when teachers used multimedia as a teaching tool in the English literature classroom. They saw it as a change of pace, and therefore, it was more interesting. While 6 students said that media didn't help them learn more, 14 said that media did help them indicating that visuals helped them to fill in the blanks of what they didn't understand from reading. Drake came to similar conclusions in her study. Therefore, the researcher believes that visual media can be utilized to aid in student comprehension of texts.

Although the researcher saw no multimedia used by students in the classroom, most indicated on the questionnaire that they use computers at home to type papers and to do research for class. Ninety-five percent of all students said that they are comfortable with computers, and would like to see them used in class. Students can not take advantage of this knowledge in class for the same reason Hofmeister concluded in his study. Classrooms do not yet have the hardware available to take full advantage of multimedia as a teaching tool. Both classrooms did have TV's and VCR's, that were the most used media in this study. The researcher concluded that the other reason for the lack of media use seems to stem from teacher choice. Both teachers had a computer, a TV/ VCR, and yet Teacher One used media 30% less than did Teacher Two. Because of the lack of hardware, the student ownership opportunities that Berry and Newman created were not observed.

Last, the researcher concluded that although the students, themselves, indicated they enjoyed class more when multimedia was used, students were just as engaged when the lesson was interesting, but involved no media. For example, when Teacher Two did a stereotyping activity for her Holocaust unit, she had only one fewer engaged student than on the visit before, when she did a hyper-studio presentation. Teacher One had the same number of students engaged when he showed a film, as he did when they were reading *Oedipus Rex* in class and discussing it. As in the studies of Drake and Finklestein, this evidence demonstrates that multimedia should be used to supplement the teacher's other teaching methods. Because there were some instances of students falling asleep during films, the researcher concluded that to keep students engaged, multimedia needs to be used for more than recreation in the classroom.

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A Study of Academic Motivation of High School Students

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> "There are three important things to remember about education. The first one is motivation, the second is motivation, and the third is motivation," Terell Bell, former Secretary, U.S. Department of Education (Ford, Alber, & Heward, 1998, p. 28).

Students' lack of motivation poses a significant and persistent problem for the educational system. Teachers are frustrated because some students seem to lack excitement, commitment, and pride in mastering concepts (Ford et al., 1998).

Hootstein's (1998) RISE model consists of four keys and sets the framework for much related literature on student motivation. His first key, relevant subject matter, calls for the teacher to relate content to students' needs, concerns, interest, and experiences. His second key, interesting instruction, suggests that teachers must stimulate students' curiosity. Instruction should be interesting and appealing to students so that they are aroused to learn (Middleton & Spanias, 1999). However, teachers must also give their students a sense of control in the learning process. Students should be encouraged to direct their own learning and to set their own personal goals in order to enhance their intrinsic motivation. Hence, teachers must try to stimulate the imaginations of students so that they are more motivated to learn (Rinne, 1998).

Hootstein's (1998) third key that will help enhance students' enthusiasm toward learning is having a satisfied learner. Teachers must give students feedback about their personal improvement and performance so that their students will be more interested in a task. Lastly, when teachers have expectations for success, students tend to have more motivation to learn. Students' effort tends to persist when they know that trying hard will make a difference in their performance and in their grade (Hootstein, 1999).

What motivates children to succeed in school? This study will attempt to discover motivational patterns of high school students so that educators can better help their students to strive for academic success.

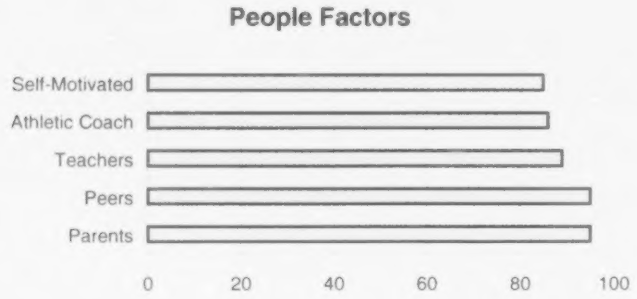
Methodology

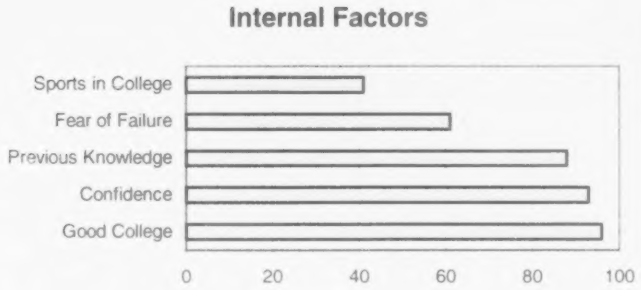
Subjects for this study were 204 students in 9th through 12th grade, 108 female and 96 male, in a middle-class high school in up-state New York. A survey was administered to 204 randomly selected students. Different genders, races, and academic levels of children were included in order to get a better array of responses.

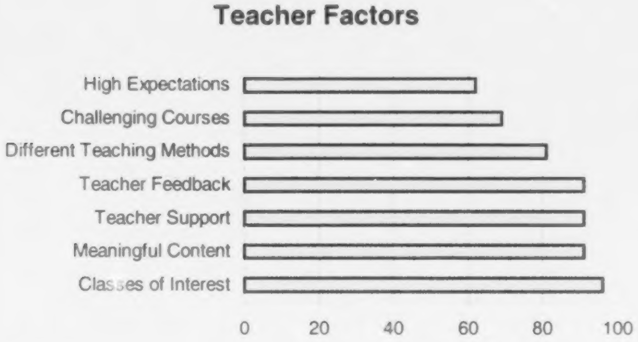
The motivational influences of the randomly selected students were determined by a questionnaire, which included both yes/no and open-ended questions, asking about who or what motivates them to succeed academically.

Results

The motivational factors of the subjects were categorized as people, internal, and teacher factors. The results are as follows.







Gender differences were assessed on 17 motivational factors. Males and females were significantly different on only three factors: fear of failure ($\chi^2 = 3.861$, $p<.05$), teachers ($\chi^2 = 4.416$, $p<.05$), and confidence ($\chi^2 = 7.052$, $p<.05$). The females were significantly more motivated than the males on all three factors.

One open-ended questionnaire item showed that students want to get good grades in school for the following reasons:

- they could be accepted to a good college (31%)
- they would make their family happy (especially their parents) (13%)
- they could get a "good" job (8%)
- they could have a bright future (8%)
- they would make themselves happy (7%)
- they would be well-educated (7%)
- they would not be punished (6%)
- they could play sports in high school or college (6%)
- they would be awarded certain privileges (3%)

Students also stated that they were willing to work hard in classes that were interesting, that were fun, that they liked, and that were either easy or difficult for them. They also said that they worked hard in classes in which the teacher made the class fun and interesting, used different methods of instruction, had good explanations and did not put pressure on the students to succeed academically.

Lastly, the open-ended questionnaire found that parents are the primary motivators of their children (students) to succeed in school. One's family and oneself were the two most commonly responded answers by the subjects. Furthermore, a few students stated that teachers and peers also affected their willingness to perform well in school.

Conclusions

The results support related literature on what motivates students, both male and female, to succeed academically. The results verify the conclusions of Hootstein's (1998) RISE model, in that students are motivated to do well by classes of interest, meaningful content that is applied to real-life situations and positive teacher support and feedback. The subjects are also motivated to get good grades when they think they can succeed in a class, when they already know something about the new material they are learning, and when teachers use different ways to teach the class, so it is not routine. In addition, the findings indicate that students are motivated to succeed academically by their parents, their peers, their athletic coaches, their teachers, and themselves. Moreover, students report that striving to go to a good college is a major motivator for them to succeed academically in high school.

Conversely, it was startling that only 62% of students are motivated to succeed when teachers hold high expectations of them. This result was unexpected because literature has stressed the importance of high teacher expectations. Perhaps it is because teachers do not hold high expectations of their students that the students do not feel motivated by high expectations of them. However, in looking at the open-ended questions, several students were not motivated by high-teacher expectations because they felt that the added pressure on them caused them to be anxious and uneasy and led to their not doing as well academically.

Most students are not motivated to do well in school so that they can play sports in college. However, this surprising result can be explained if many of the subjects may not have been athletes and the questions about playing sports in college and being motivated by one's athletic coach were not applicable or meaningful to them. Yet, it is also possible that students today are focusing more on getting an education and getting good grades and not relying on sports to help them attend a college.

Overall, the results of the study are quite consistent with related literature results. In looking at gender differences in regards to who or what motivates students to succeed academically, it is quite surprising that the results were so similar for both males and females. Only three of the results were significantly different. Males are less motivated to succeed academically by a fear of failure, by their teachers, and if they believe they can succeed. Perhaps it is because males do not possess a fear of failure or that it is not a motivator for them. Secondly, teachers have less influence on males than females. Perhaps males are more motivated by their coaches or other mentors than females. In addition, it may be that females are more motivated by role models and positive influences, such as their teachers, than males and strive to succeed from these mentors.

Thirdly, the findings indicate that when females believe they will succeed, they will do well whereas males are not as affected by their self-beliefs as the females. One plausible explanation for this result may be that when females have the self-confidence and believe that they will do well, this is a motivator for them to succeed academically, but is not the case for males. Thus, teachers must strive to be a positive influence to females and encourage them to believe in themselves and believe that they will succeed academically. Yet, because there are only a few significant differences in the motivational factors of females and males, it would be reasonable to treat both females and males similarly in regards to motivating them to strive for academic success.

Motivating students is an imperative task. Educators must learn more about what motivates students to succeed so that they can influence their students to enjoy learning and to do well in school. Parents, peers, coaches, teachers, administrators and faculty must educate themselves about the motivational factors of children in order to learn the impact they have and numerous entities have on students. Because of the variety of research on student motivation, more research is clearly needed in order to understand the motivation of a myriad of dispassionate students.

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Classroom Culture and Psychosocial Environment

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All classrooms have their own "culture," a unique set of "rules" which govern routine operations and the general flow of activities in the class. This ethnographic study of four classrooms investigated the relationship between classroom culture and psychosocial environment as perceived by students. Because past research has found that perceptions of classroom psychosocial environment can significantly affect student attitude and achievement, exploration of the relationship between classroom culture and psychosocial environment could result in improved learning environments for students.

Review of Related Literature

Past research has attempted to define both the determining factors that make up classroom psychosocial environment as well as the possible effects classroom climate may have on students. Walberg and Ahlgren (1970) investigated the predictability of classroom climate perceptions based on several teacher, student, and classroom characteristics, and found that a number of variables can be predictors of classroom climate, demonstrating the complex nature of classroom psychosocial environment and calling for further investigation into all the possible aspects of classroom climate. Randhawa and Michayluk (1975) as well as Moos (1979) found significant relationships between type of school and climate perception. In an investigation of relationships between cooperating teacher behavior and student teacher behavior, Copeland (1978) found that repeated teacher behaviors "become a functional part of the classroom's ecological system" (p. 98), which suggests that teacher behavior may have a significant effect on the students' perception of classroom climate; however, Van Horn (1976) and Moos (1979) both found otherwise. Wubbels et al. (1991) concluded that teacher behavioral types can be used to explain differences in student attitudes and achievement from class to class, and Hearn and Moos (1978) concluded from their findings that subject matter and the resulting nature of the class may help to determine classroom climate. Past research has also suggested that student perceptions of classroom climate are significantly related to student cognitive and affective outcomes [Fraser & Fisher (1982), McRobbie & Fraser (1993)]. If past research has taught us anything, it has shown us that classrooms are complex settings, and many factors contribute to the psychosocial climate of the classroom. Hamilton (1983) describes classrooms as "social organizations" in which a "hidden curriculum of values and behavior" dictates the ethos of the classroom as a whole (p. 150), which recalls Gump's (1980) argument that the classroom environment consists of two levels, the formal level (operations, daily routines, programs of behavior) and the informal social interaction level (the complex web of human relationships). Gump states that although these two levels are independent, they almost necessarily interact; the nature of this interaction was, in part, the basis for my present study.

Methodology

The research sample consisted of four English classes of four different teachers at East Forsyth High School, a rural high school in Kernersville, North Carolina. Classroom A is a 10th- and 11th-grade journalism class; Classroom B is a standard 12th-grade class; Classroom C is an honors 10th-grade class; Classroom D is an honors 9th-grade class. The sample was selected both because of availability and due to the observable differences in culture among the four classrooms.

Phase 1: Classroom culture ethnography

I observed each of the four classrooms in the sample a minimum of 10 times each over a twelve-week period. The purpose of these observations was to compile objective descriptions of the culture of each of the four classrooms. Observations focused on the physical environment of the classroom, classroom procedures, pedagogy, and classroom discourse, and were guided by an observation instrument. To augment these ethnographies, I also evaluated the observed culture of each classroom in terms of five factors: *Discourse Formality* (the extent to which classroom discussion and conversation follow observable rules of conduct and formality), *Process Formality* (the extent to which classroom activities possess a clear organizational pattern), *Process Flexibility* (the extent to which the class adheres to activity plans as the lesson progresses), *Lesson Flexibility* (the extent to which pedagogy and activities change from day to day), and *Student Autonomy* (the extent to which students influence the nature or progression of the lesson). Each class was given a Likert scale score for each of these five categories, with 1 being the lowest and 5 the highest. Scores are displayed in the following chart.

CLASS	Discourse Formality	Process Formality	Process Flexibility	Lesson Flexibility	Student Autonomy
A	2	3	3	2	4
B	3	3	2	2	2
C	4	3	3	2	3
D	4	4	3	4	3

Phase 2: Assessment of student perceptions of classroom psychosocial environment

Toward the end (week 11) of the observation process, students in each of the four classes were surveyed regarding their perceptions of the psychosocial environment of the classroom. The survey administered was a shortened form of the Classroom Environment Scale developed by Fraser and Fisher (1986). This 25-item survey assessed student perceptions of six dimensions of classroom environment: Involvement, Affiliation, Teacher Support, Task Orientation, Order and Organization, and Rule Clarity. I administered the anonymous survey during regular class time with the teacher absent from the room. A total of 54 surveys were completed among the four classrooms, with the following approximate percentages of total students in each class responding: Class A, 67%; Class B, 54%; Class C, 91%; Class D, 75%. Surveys were scored according to the instructions in Fraser and Fisher (1986), and a one-way analysis of variance (ANOVA) was performed to compare the survey responses from the four classes.

Results and Discussion

The mean survey responses for each class are recorded in the following table. The highest possible score in each category is 12. Thus, the students of all four classes perceived their classrooms to be relatively high in Affiliation, while all four groups of students perceived their classes as relatively low in Order and Organization. An asterisk (*) denotes means which, according to the results of the one-way ANOVA, differ significantly from the other groups.

CLASS	Involvement	Affiliation	Teacher Support	Task Orientation	Order and Organization	Rule Clarity
A	10.00	11.00	9.60	9.20	6.60	9.20
B	8.00	10.00	10.27	10.53	7.07	11.07
C	10.90*	11.00	11.30	9.60	8.70	8.60*
D	7.56*	11.78	8.00*	10.67	9.11	10.89

The results of the one-way ANOVA revealed that some differences exist in student perceptions of classroom psychosocial environment among classrooms with differing cultures. Class C is perceived by the students surveyed as having significantly higher Involvement than the other classes, while Class D is perceived as having significantly lower Involvement than the other groups. Class D is also perceived as significantly lower in Teacher Support than Classes A, B, and C. Class C is perceived by students as significantly lower in Rule Clarity than the other classes. No significant differences were found between the classes in student perceptions of Affiliation, Order and Organization, and Task Orientation.

While some significant differences in student perceptions of some components of classroom psychosocial environment may be due to differences in classroom culture, this data does not support the conclusion that the cultures observed in any of the classrooms caused differences in student perceptions. Nevertheless, based upon my ethnographic observations, I feel that many of the students' perceptions of their classroom environments are accurate interpretations of the nature of their classroom culture. For example, Class C ranked significantly lower in Rule Clarity than the other classrooms. This is an accurate perception, as Mr. C did not spend observed class time explaining and enforcing rules; however, it should be noted that no observed discipline problems occurred. It might be inferred, then, that the culture of Class C dictates a mutual respect between teacher and students and upholds, nevertheless, an understanding of accepted behavior—an inference which my classroom observations support. On the other hand, some student perceptions of classroom environment do not appear to correlate with observed classroom culture. For example, students in Class B were often off task, and Ms. B often had to handle minor discipline problems; however, the student perceptions of Class B Task Orientation and Rule Clarity did not differ significantly from those of the other classes (with the exception of the perception of less Rule Clarity in Class C). Similarly, to an outside observer, the students of Class B did not seem to get along with each other as well as the students in other classes, yet no significant differences existed between the four classes in student perceptions of affiliation. As another example, the culture of Class A promotes cooperation, student autonomy, and goal orientation, yet Class A student perceptions of Task Orientation, Involvement, and Order and Organization did not differ significantly from the other classrooms.

However, since in most instances no significant differences in student perceptions of Involvement, Affiliation, Teacher Support, Task Orientation, Order and Organization, and Rule Clarity in the classroom were found, this research does not conclusively answer the question of how classroom culture influences student perceptions of classroom psychosocial environment. Although the cultures of these four classes differ greatly, students overall perceived their psychosocial environments as quite similar. This, of course, could signify that classroom culture has no bearing on student perceptions of classroom environment. However, because this research revealed some significant differences in student perceptions of classroom climate, I conclude that student perceptions of classroom psychosocial environment are dependent upon many complex factors, one of which may be classroom culture.

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Gender Dynamics in the Classroom:
A study on the effects of single-gender and mixed-gender groups on student achievement and attitude

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December, 1999

The underrepresentation of women in science today is of great concern for the future. It seems logical that the best answers to understanding the causes of this underrepresentation lie in the classroom. Research has shown that participation and achievement have increased when girls were placed in single-gender environments (AAUW, 1992; Guzzetti & Williams, 1996; Sadker & Sadker, 1994). Some of these environments include single-gender schools, classes and even single-gender small groups for discussion. By addressing the problems of gender inequities in elementary and secondary classrooms, girls are more likely to feel successful at a younger age and to continue to utilize their gifts, especially in science, at the college level and beyond. However, single-gender classrooms and schools are not available or even preferable to every student. Therefore, the purpose of this research is to investigate the effects of single-gender and mixed-gender groups on female achievement and attitude.

Review of Literature

Over the past two decades, a significant amount of research has been directed towards gender equity issues in the science classroom. Here, a differential opportunity to engage in academic tasks, known as gender bias, is very much alive. The gender bias, or "subtle micro-inequalitites that today's school children face may appear superficially insignificant when viewed on an individual basis, but it has a powerful impact on girls' achievement and self-esteem" (AAUW, 1992; Tobin & Garnett, 1987).

Teacher feedback is crucially important to girls' achievement and self-esteem. However, this feedback is often skewed. Teachers tend to interact with males more frequently, take them more seriously, ask them better questions, and give more precise and helpful feedback (Sadker & Sadker, 1994). Students most likely to receive teacher attention are white males followed by minority males, white females and then minority females (Sadker & Sadker, 1994).

Single-sex instruction

Numerous educators advocate single-sex instruction for females as a preferable alternative to mixed-sex education. Here, female students are encouraged to participate in courses and activities which are commonly dominated by males. Girls tend to have more positive attitudes about academics, more self-confidence in their ability to do well in male dominated courses, and achieve at higher levels (Grossman & Grossman, 1994; Sadker & Sadker, 1994). Yet, the results of single-sex instruction have not been totally consistent. Some evidence suggests that students attending coeducational institutions are actually happier and more social with their peers, although this evidence is far from conclusive (Jones et al., 1972).

Small Group Work

In small groups or cooperative learning environments, students learn more, get along better with their peers, feel better about themselves, are more motivated and achieve more (Gardner et al., 1989; Grossman & Grossman, 1994). In general, "females, African Americans, Hispanic Americans, and students who are inclined to cooperate tend to experience the greatest gains" (Grossman & Grossman, 1994, p. 135). However, when in groups, boys tend to dominate instructional talk and girls tend to be more attentive listeners and recorders. Girls' participation does not increase any more than in whole class discussion (Tannen, 1992; Guzzetti & Williams, 1996; Guzzetti, 1998).

Perhaps one way to combat gender disparity in the classroom is to provide more opportunities for females to engage in oral forms of refutation and discussion (Guzzetti & Williams, 1996). Placing girls in small groups is simply not enough to combat the asymmetrical power relations between boys and girls. However, when females were placed in same-sex groups, participation increased and girls were engaged more often in a wider range of verbal interactions (Guzzetti & Williams, 1996; Guzzetti, 1998). The main purpose of this study is to expand on previous work by investigating the effects of all female groups on participation, achievement, and comfort level.

Methodology

Three honors Anatomy and three regular Biology classes at a Winston-Salem / Forsyth County high school were chosen to participate in this study. In order to test the effects of gender grouping, the students, as in the normal custom of the teachers of the study, were placed in small groups for two units of material. For the first unit, half of the students in each class were placed into all male or all female groups, respectively. The second half of the class was placed into mixed-gender groups, consisting of at least one boy and one girl. During the second unit, students reversed groups so that students who had previously worked in a single-gender group were randomly placed in a mixed-gender groups, and vice versa. At the end of the each unit, an end-of-unit test was used to measure achievement. In addition to the test, a questionnaire was administered to determine student attitude toward small group work in science classes.

The questionnaire, developed through the assistance of education faculty and cooperating teachers, asked students to rate their participation and comfort. The questions were scored on a Likert scale whereby students rated their perception of the above variables as "always", "often", "occasionally", "rarely", or "never" (i.e. I ALWAYS participated in small group discussion). A score of one was given to the greatest participation and comfort.

Results and Discussion

A paired samples t-test was used to determine if girls in single-gender groups achieve more than girls in mixed-gender groups. For the purpose of this study, statistical significance was selected to be $\alpha = 0.05$. Girls in these single-gender groups did not achieve more than in the mixed-gender groups ($P = 0.989$). Further analysis using Factorial ANOVA revealed no interaction effect among grouping, class type and ethnicity ($P = 0.748$).

Moody & Gifford (1990) found that girls tend to achieve more in single-gender groups than in mixed-gender groups. Some reasons why these results and those of this study differ may include better assessment with pre and post-tests and increased study time (i.e. five units as compared to only two in this study).

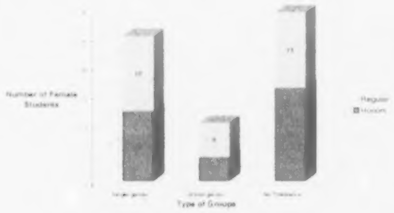
It is also possible that there is no difference in achievement. Students may depend more on independent study than group activities. Group work, independent of gender composition, may also be an effective learning strategy for these girls. That is, these girls learn as well with other girls as they do with boys.

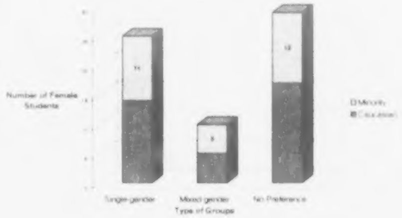
A paired samples t-test was performed to determine if girls in single-gender groups feel that they participate more and feel more comfortable than in mixed-gender groups. Girls did not feel that they participated more when in single-gender groups (P=0.188), nor did they feel more comfortable (P=0.643).

In contrast to this study, Guzzetti & Williams (1996) found that girls became more active participants and engaged more often in a wide range of verbal interactions when placed in single-gender groups. However, girls in this study noted in their free responses that they "got along well with classmates" and that they "enjoyed working in groups." Thus, it is likely that girls remained active participants in their groups independent of their gender composition.

Guzzetti (1998) reported that girls felt more secure in single-gender groups. In this study, however, girls did not report feeling more comfortable in either group in the Likert scale questions on the questionnaire. Yet, a common free response for many of the girls who did prefer the single-gender group was "I prefer the all girls group. I felt more comfortable." It is possible that there may only be a certain percentage of girls who feel more comfortable in an all female environment and this number is not large enough to be significant. Also, comfort level may be more accurately quantified in a questionnaire which asks girls to compare both groupings simultaneously or by asking more questions that pertain to comfort, instead of only the two used in this study.

A Goodness of Fit test was performed to determine whether a disproportionate number of females preferred single-gender or mixed-gender groups. Females did prefer single-gender groups (39%) to mixed-gender groups (16%) ($\chi^2 >$ c.v.). However, a large proportion (45%) of females had no preference. Class type (honors or regular) and ethnicity had no effect on group preference ($\chi^2 = 0.750$ and 0.226, respectively).





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This is a very important result because it shows that girls really do have a preference for their grouping. Some reasons for this preference include the fact that adolescent females tend to have more female friends, and thus, enjoy and prefer to work with other girls. In the open ended question, girls indicated that they also felt more comfortable because they could "openly share their interests without any type of repercussions." Girls mentioned that "the intellectual discussion was enhanced" and "everyone was able to contribute their thoughts and opinions to the group's project." The free responses from females who preferred the mixed-gender noted that "responsibilities were equally shared." However, comfort was not mentioned in any of the responses. Comfort was either not an issue for these girls or they felt equally comfortable in both groups. The girls who had no preference noted that they "enjoyed group work" and "working with others", no matter what the composition.

In conclusion, group work can be an effective teaching strategy provided a comfortable environment is created that fosters equal participation and intellectually stimulating discussions. This study shows that many girls would prefer to work in an all-girls group than in a mixed-gender group. Even if their achievement scores are not immediately affected from such groupings, it is plausible that their participation and overall enjoyment of science classes will be augmented if they are placed in a comfortable setting. Thus, teachers should consider the potential effects of gender interactions when utilizing group work in the classroom.

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Division of Fractions: Procedural Versus Conceptual Knowledge

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As defined by Mikusa and Lewellen (1999), constructivism allows students to actively construct their own knowledge of mathematics. Thus, mathematical knowledge cannot be transmitted directly from the teacher to the students, but the teacher must aid students in acquiring their knowledge through various teaching methods. The role of students in a constructivistic learning environment mandates that they take in and process new information, thereby making new connections among concepts which build on the foundation of previous concepts. Accordingly, a constructivist teacher's duty is to create an environment that is conducive to creating good schemas of mathematical understanding. Students can then build new connections between new and previously learned concepts. In turn, the new connections shape the students' conceptual knowledge.

Constructivist mathematics educators must encourage students to realize both conceptual and procedural knowledge. Shimizu (1996) defines conceptual knowledge as "knowledge of the relationships and the interconnections of ideas that explain and give meaning to mathematical procedures"(p. 223). By way of contrast, procedural knowledge includes both "knowledge of the format and syntax of a symbol representation system, and knowledge of the rules and algorithms that can be used to complete mathematical tasks" (Shimizu, 1996, p. 224). Although both procedural and conceptual knowledge are invoked in the division of fractions, this study will focus on the value of acquiring the conceptual knowledge of division with fractions.

Unfortunately, many students have considerable difficulty thinking conceptually. Moss and Case (1999) articulate several possibilities to explain students' failure to develop a conceptual knowledge of fractions. One such possibility is that algorithms are given more classroom time than conceptual knowledge in the middle grade levels. In fact teachers encourage students to follow the rote application of "rules" rather than teach the students the underlying concepts.

The dangers inherent in reliance on algorithms are demonstrated in studies by Kamii and Warrington (1999). Kamii (1985) considers algorithms to be harmful to a child's learning process because this method prevents children from even attempting to reason through a problem. Additionally, Mack (1990) found that children often remember erroneous algorithms which they rely on more than their own thinking.

Dorgan (1994) found fraction concepts to be among the least understood by students. This is true not only in the United States but in other countries as well. This research further found that students know the "rules" of fractions but demonstrate little understanding of the concepts which underlie these rote procedures. Dorgan (1994) also conducted a survey which found that "textbooks have limited value concerning fractions in certain areas, including the development of qualitative reasoning, the building of connections among various modes of representation, and the growth of communication skills"(p. 155). She suggests the use of manipulatives as an alternative approach to the textbook. Through manipulatives, students realize fraction concepts more fully because the student, not the teacher, makes the new connections among concepts.

Ball (1990) conducted a study of preservice teachers in both elementary and secondary mathematics. This study explored teachers' subject matter knowledge and what constitutes a mathematical justification. She specifically examined preservice teachers' knowledge of division with fractions. Participants were asked to solve a simple problem involving division of fractions. Seventeen out of nineteen preservice teachers answered the problem correctly. Alarmingly, only five out of the seventeen who correctly answered the initial question were able to give an appropriate model of this problem. Five out of nineteen total participants gave an inappropriate model. Furthermore, eight participants were utterly unable to generate a model. Interestingly, a commonality among the inappropriate models was dividing by 2 instead of ½. The preservice teachers' understanding appeared merely to comprise recall of the "rules" for specific problems as was evidenced when they were asked to give a representation of the problem.

It has been several years since the NCTM Standards were published. These standards demand a new approach to teaching mathematics. NCTM (1991) states that "the 'tell, show, and do' approach does not work" (p. 152). Furthermore, according to NCTM (1991), "teachers need to build students' repertoire of mathematical knowledge and their abilities for posing, constructing, exploring, solving, and justifying mathematical problems and concepts" (p. 152). This can be accomplished through alternative forms of instruction such as the use of manipulatives which aid in forming students' conceptual knowledge. This study will investigate whether seventh grade students posses conceptual knowledge of division of fractions.

METHODOLOGY

Nine seventh grade mathematics students at a Western North Carolina middle school participated in the study. Two seventh grade mathematics teachers at the school chose students with varying ability levels. Students were interviewed individually to assess their understanding of dividing fractions. Each interview was audiotaped. The interview began with a computational division problem dealing with fractions. As he or she worked through the problem, the student was prompted to think aloud with the help of questions posed by the interviewer. Questions posed consisted of "Why are you…" or "How can you…". These questions required the student to verbalize his or her concept of dividing fractions. Lastly, the student was asked several general questions.

The data were synthesized to describe the students' understanding of the concept of dividing fractions. The explanations given by the students were then analyzed to determine whether the student utilized conceptual or procedural knowledge.

RESULTS/CONCLUSIONS

The students were asked to solve "4/5 ÷ 1/2", using whatever manipulative they chose. After the students worked the problem, they were asked to demonstrate the problem in a real life situation. Since this is a considerable challenge for a seventh grader, the students were asked to demonstrate their understanding of the problem by creating word problems of their own. The students were then asked to model "4/5 ÷ 1/2" using a picture representation or manipulatives. Their responses are summarized in the table:

	Solved Correctly	N	%
Incorrect Algorithm	No	1	11
Partial Algorithm	No	2	22
Could Not Explain or Model	Yes	3	33
Explained Concept Correctly	Yes	2	22

Modeled Concept Correctly	Yes	1	11

Six out of the nine students solved the division problem correctly. Two students did not solve the problem correctly due to an incorrectly memorized algorithm. Rather than finding the reciprocal of the second fraction, both students found the reciprocal of the first fraction. One student reduced, without finding the reciprocal of either fraction, then multiplied the numerators and denominators. The three incorrect students failed to check their results after calculating what they believed to be the correct answer. According to Kamii and Warrington (1999) algorithms prevent children from attempting to reason through a problem. These students tried to explain and model the computation, but kept finding mistakes in their explanations; they never stopped to consider that their answer was incorrect. This finding supports Mack's (1990) concerns about the danger of learning an incorrect algorithm.

The six students that correctly calculated the problem were grouped into three categories according to their level of understanding. The categories are as follows: those which solved the problem correctly; those which explained the problem correctly; and those which modeled the problem correctly. Of particular interest are the students' responses pertaining to explaining and modeling the division of fractions.

Just two students correctly explained "4/5 ÷ 1/2". These students accurately described the process of finding how many halves there are in four-fifths. Seven students could not give an appropriate explanation of "4/5 ÷ 1/2". A common error was to divide by two rather than one-half. For example, after correctly solving the problem, student B said, " You can't split 4/5 in half". She became frustrated and commented, "In math we don't focus on what it means, but I know how to do [the problems] really really well". Student F explained the problem as follows, "Taking a half out of four-fifths and you get what's left over." She went on to say , "If we had a problem like [this] in class, then I would feel like I knew it better." A couple students began explaining the concept, but only confused themselves. These students did not accurately explain the concept.

Only one student modeled the problem correctly. He drew a picture to represent the fractions. The picture showed that eight-tenths is equal to four-fifths. Under eight-tenths he drew a rectangle of equal size; he shaded in half of this rectangle to represent one-half or five-tenths. He commented, "one-half goes into four-fifths one time with three remaining out of five." This student explained further that three-fifths remained rather than three-tenths because he was calculating how many halves went into four-fifths.

Eight students were unable to give an appropriate model of the problem. Most students began drawings, then erased them in frustration. A couple of students tried using fraction strips, but they too failed to complete the task. Student E nearly modeled the problem correctly by using fraction strips, but became confused at the end. She said, "My teacher stresses [calculating] the problem itself more than [representations]." Student F said, "[This is] too hard! We didn't work on [modeling]."

The National Council of Teachers of Mathematics (1991) states, "the 'tell, show, and do' approach does not work" (p. 152). The nine students participating in this study repeatedly complained that they could not explain or model the problem because they "don't focus on [modeling and explaining]" in class. Perhaps students can not perform these tasks because their teachers are implementing the "tell, show, and do" approach to the division of fractions. Student I calculated the problem perfectly and expediently, but refused to explain or model the problem claiming his teacher had not taught him how to explain or model a similar problem. He concluded, "The teacher just teaches me and I do what the teacher tells me to do, and I don't know how to explain it."

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High School Coaching and College Academic Success

by

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Introduction:

As academic requirements for high school athletes to enter college have increased, high school football coaches have been put under a microscope. High school football coaches in today's society have to have some knowledge of the college and NCAA admission standard for athletes. Athlete's grade point averages and SAT scores need to be monitored by coaches. Also, the coach should supervise proper support systems, such as tutorial or monitoring of the athlete's classes. The local Forsyth County school district in support of athletes and coaches has ordered that a mandatory C average be kept by all athletes to be eligible for participation in high school sports (Ziegenbalg, 1999). The review of literature will examine what some districts across the country and their coaches do to help prepare their athletes for college.

Review of Literature:

A high school coach in Richmond, California, locked his players out as a punishment for not being eligible. The coach locked the players out of the gym until the minimum academic requirements of the district were met. Shields (1999) says tutors were drawn from the student body and the school's faculty helped these young men complete assignments. Speakers from the community came in to discuss the importance of education in the "real world."

Manning came up with a four-step program that involved (1) orientation, (2) implementation, (3) monitoring, and (4) evaluation. Students would have to attend study hall 3 days a week and complete a daily homework diary monitored by coaches. Guidance counselors would help to provide study skills, and parents and high achieving peers were included in the program to help monitor and help the athletes. The Manning

(1990) program was recommended as part of the athletic criteria for student athletes throughout the county school systems in Florida.

Goldman came up with a program to help athletes prepare the members of a high school football team for the expectations of college admission. Goldman's three steps involved small group and one-on-one meetings between the student athletes and the school counselor with NCAA admissions criteria used as the foundation. Early morning study hall was implemented with a teacher and students present to provide tutoring with the goal of raising GPA's. Also junior and senior athletes attended a 9-week SAT preparatory class along with academic progress monitoring by teachers. Goldman (1994) found that dramatic gains were made in academic achievement.

Quinn (1998) says that coaches are responsible to make sure that their athletes know the proper procedures and requirements to get into all levels of schools. He believes a coach has responsibility to let the player and the parent know what level of competition that the player may fit best. Also, the coach should ensure that the player receives proper study hall and tutors to help the athlete pursue his dream.

Ross (1999) has a program that calls for a meeting with players and parents before the year begins. Afterwards he believes that GPA's should be compiled and appropriate GPA's that are necessary for college entrance should be discussed with players and parents. He believes athletes, once practice begins, should be assessed and receive a chart on how to get better after the season. Tutors composed of students and faculty should be administered if needed.

The previous research included examples of what some coaches have done across the nation to combat the problem of athletes and poor preparation for college. The purpose of this research project is to further describe what high school coaches do to prepare their football players for college.

Methodology:

Subjects: The subjects of this study were 56 varsity football players from Wake Forest University. Wake Forest University is Division I and is noted for its academic excellence. Its athletes must be of the best caliber, both academically and athletically.

Instrument: The researcher constructed a survey that investigated what high school football coaches have done for players. The researcher used questions such as:

"Did your high school coach help you in setting athletic and academic goals," "Did your high school coach meet with your teachers regarding your academic progress," and "Did your high school coach make you aware of NCAA academic requirements?"

Procedure: The data was collected and analyzed using Microsoft Excel.

Results:

Question	**Number**	**Percentage**
DHS coach prepare acad. For college	34	61
DHS coach make aware of NCAA	44	79
DHS coach academic tutors	15	27
DHS coach mandatory study hall	8	14
DHS coach academic progress reports	43	77
DHS coach work w/teachers	35	63
DHS coach meet w/parents	28	50
DHS coach athletic and academic goals	29	52
DHS coach communicate w/college coaches	47	84
DHS coach match individual athletic and academic abilities w/potential colleges	27	48

The first area studied was setting goals. Of the 56 football players who completed the survey, 52% reported that their high school coaches helped them in setting athletic and academic goals. Many coaches help their athletes set goals, because a majority of high school football players ask their coach's opinion of their skills.

The second area was college information. Of the players who took the survey, 84% reported that their high school coach communicated with college coaches on their behalf, and 48% reported that their coaches tried to match their individual athletic and academic abilities with potential colleges. In the recruiting process, the first assessment of the athlete comes from the high school coach. Every college sends surveys to high school coaches to see if they have any potential college football players on their team and it becomes a must that the high school coach and college coach communicate. Less than half of the athletes (48%) reported that their high school coach tried to match their athletic and academic activities, because often athletes will tell the high school coach which college they are interested in. Then the high school coach will send tape of the athlete to the college that the player selected, and if the college likes the player he will be recruited. The high school coach will look more prestigious if his players play for a Division I team. The only time a high school may try and match the player is if the coach feels that the player is not Division I material.

The third area was academic assistance. Of the players surveyed 77% reported that their high school coach required academic reports, 27% said that their high school provided tutors and 14% said that their high school coach had mandatory study hall. Only a low percentage of athletes said that their high school coach provided tutors and required study hall. This may be because to get into Wake Forest University a football player needs to be a good student, and it's apparent that the great majority of football players were good students while they were in high school or they would not have been recruited. A high number of athletes said that their high school coaches required academic reports because the high school coach needs to know who is eligible to play on his team.

The fourth area was communication with parents and teachers. 63% reported that their high school coach worked with teachers regarding their college future and 50% said that their coach met with their parents regarding their college future. It is critical as far as the NCAA requirements are concerned that the coach work with teachers, because a player must take certain classes and the coach would need to talk to teachers on the player's behalf. Half of the football players said that their coach met with their parents. Often the player goes on recruiting trips to the college with their parents and not their coach. A majority of parents do not like someone telling them where their child should go unless they have discussed it together.

The last area was NCAA requirements and overall guidance. 79% reported that their coach made them aware of NCAA requirements and 61% said that their high school prepared them for college. Both numbers are high because Wake Forest University is very selective in its recruiting process and Wake's standards are higher than the NCAA requirements. A majority of high school coaches must tell their athletes about the NCAA requirements or send them to the guidance office to find out. A coach wants to be considered a successful coach like a player wants to be considered successful, and the number of college athletes he puts out also measures success.

Conclusions/Recommendations:

All high school football coaches should start helping their players set athletic and academic goals once the athlete comes into their program. The results of this survey showed that communicating with college coaches, requiring players' progress reports, and making the football player aware of NCAA requirements are what the majority of coaches concentrate on. The other areas identified are also important and should be recognized as part of the high school coaches' responsibility. A good high school football program should include the following:

- All coaches should communicate with teachers and parents about the athlete.
- All coaches should assess each player's abilities and try and give a blueprint of a college in which they best fit.
- All coaches should implement some sort of academic support in their program. (progress reports, study hall, tutors, guidance counselor meeting, etc.).
- All coaches should make clear the NCAA requirements to players, teachers, and parents.

Coaches should always take into account the players' academic and athletic future.

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Technology in the Foreign Language Classroom: How Do Teachers Use It to Enhance Instruction?

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As the new millennium approaches, corporations and individuals are working to ensure that their technology is Year 2000 compliant. Many wonder what will happen at the stroke of midnight. Will bankcards still work? Will e-mails still reach their intended destinations or end up floating around in cyberspace? What will happen to home computers? Will air travel be affected? Will cellular telephones still function? Technology affects financial transactions, the ability to communicate with people, the ability to stay up to date on the most current events around the world and, most importantly, the ability to educate future generations.

Many remember the first personal computers as monstrous machines that sometimes took up entire rooms, and even more recall when the first desktop computers were introduced into schools around the nation. Technology has appeared in classrooms in many forms throughout the years. Common technology resources in the classroom include overheard projectors, radios, tape recorders, television and video cassette recorders. Classrooms are now being equipped with computers, televisions that broadcast morning announcements from an internal studio, laser disc players, and personal computers for the teachers. Many schools now have computer labs, language listening laboratories, and Internet connections within the classrooms.

Becoming proficient in a foreign language is more than learning to conjugate verbs and memorizing vocabulary words; it is learning about a culture different from one's own. "Foreign language (FL) learning involves understanding messages created for members of a different language community, a world with values and cultural assumptions outside the FL learners' frame of reference" (Barry & Pellissier, 1995, p.23). Foreign language educators are charged with much more than teaching their students to speak another language; they are responsible for teaching them about another culture, another people and how to communicate with them and learn from them.

Review of Literature

Foreign language education is a field that includes not only grammar instruction but communication and cultural instruction as well. A useful tool in foreign language instruction is the videotape. Videos, when authentic and not scripted, can be an invaluable tool in the classroom. Hurley (1995) found that there are many language videos currently on the market, but they are all scripted videos where the people in them are actors. Many of the videos on the market show people taking part in typical activities including shopping, eating in restaurants or visiting tourist sites. Although these types of scripted videos "are carefully controlled for content and language and thus can be useful in the classroom, they lack spontaneity and naturalness of authentic videos" (p.93).

In order to use these videos in the classroom, a television is needed. Many schools, elementary through high school, have a television in each classroom which is wired into a central system, and they use the televisions to show daily announcements. Callibetsou (1993) found that "an instructor alone or with his students can now choose multiform authentic material by using not only the traditional foreign languages book but television as well" (p.225). Callibetsou also noted that televisions can serve two different roles in the foreign language classroom, to transmit and produce material.

Of all of the above mentioned technological tools, the Internet contains more information than all of the others combined. The Internet also facilitates communication with the use of e-mail which has become the most efficient way to communicate with people all over the world and to receive responses in a quick and timely manner. Leh (1997) conducted a study where students were given opportunities to communicate via e-mail with Spanish speaking penpals in Mexico. Leh looked at the information that was exchanged between the students, the frequency of communication, and whether or not communication continued beyond the course of the class.
She found that by communicating with students from a foreign culture, there was an increase in motivation and enhancement of social presence.

LeLoup (1997) approaches the topic of e-mail from the perspective of the teachers. "Access to e-mail opens many doors to foreign language teachers that can lead to such diverse options as class activities and projects, professional development opportunities for the teacher, direct foreign language communication with native speakers, and pedagogical support" (p. 10). LeLoup discusses the advantages of e-mail discussion groups as a way for teachers with a common interests to come together and engage in professional dialogues. LeLoup also discusses the advantages for teachers who live in small towns where opportunities for foreign language influence are rare.

E-mail is just one of the many tools that the Internet provides. Another form of technology available through connection to the Internet is access to the World Wide Web (WWW). Kost (1999) points out the benefits that come from using the Web which include simulated immersion experience through language written by native speakers, for native speakers; a move from the traditional practice of word translation; vocabulary acquisition with the help of images taken from the Web; and the acquisition of a more global perspective. Kost also lists various search engines, such as Yahoo, WebCrawler, and Lycos that help teachers find information pertinent to different lessons on food, movies, or a night on the town. LeLoup and Ponterio (1999) find that the WWW "is essential for the delivery of authentic materials in the form of texts, images, sound recordings, video clips, and even virtual reality worlds" (p.1). Along these same lines Sharp, Levine & Sharp (1996) compiled a list of the best web sites for teachers. Included in this list are web addresses such as the homepages for the American Council of Teachers of Foreign Languages (ACTFL), Foreign Language Teach (FLTeach), and a variety of other foreign language resources and organizations.

Also available to teachers is a tool called Web Course Tools (WEB CT) which is an online course management application featuring course organization, communication, content, and assessment exercises. WEB CT can be used as a textbook. The assessment exercises that are featured in WEB CT are faster and more convenient which allow the teacher to spend more one on one time with the students. According to Seikmann (1998) WEB CT also "gives the instructor the tools to develop online courses or supplemental material with relative ease and take control of the design as well" (p.5).

Not every teacher welcomes technology into his or her classroom with open arms. Burnett (1999) discusses the fact that some educators suffer from computerphobia and technophobia which translates to intense anxiety about having to use computers or the more advanced forms of technology available. Burnett relates the trials of one teacher's assistant who, fearing computers, was unexpectedly asked to teach a language class in a networked classroom. Burnett points out that "Administrators, educational technologists, trainers, and implementers of technology initiatives must keep in mind that not all teachers will respond to integrating or using technology in the same manner" (p. 292).

Methodology

The goals of this study were: 1) to determine what types of technology foreign language teachers use to enhance their lessons and, if they do not utilize any types of technology, what the reasons are and 2) to learn about the types of technology that are available to teachers of foreign language within their schools. This researcher conducted classroom observations in two public high schools and a private university in Forsyth County, North Carolina over a period of ten weeks. Observations were made in four Spanish high school classes, levels one through five and two Spanish university classes above the intermediate level. This researcher also presented six foreign language teachers with a questionnaire about their computer literacy, availability of computers to them, types of technology they use and other related questions. In addition, this researcher asked four high school foreign language teachers and two university foreign language professors about the types of technology they would like to see implemented in their classes or have access to in their school.

The information gained from the questionnaires and classroom observations were carefully studied and a conclusion was drawn about the types of technology, if any at all, teachers use and what could be done to increase technology use in lesson preparation.

Results and Conclusions

Results of this research provided useful information about what types of technology teachers use to enhance their lesson planning. All of the teachers surveyed had access to a computer either in their own home or at their school. 80% of the teachers surveyed felt that they were computer literate. 60% of the teachers felt that they made adequate use of the technology available to them. When asked why they did not use the available technology, the most common response was lack of time and lack of training. 60% of the teachers responded affirmatively when asked if their school employed a technology specialist. The teachers indicated that they only called on the technology specialist when problems arose with the computers in their classrooms and not to seek advice on how to enhance instruction using technology. All of the teachers surveyed use the Internet for personal use citing e-mail, on-line shopping, searching for real estate, and seeking travel information as their reasons for using the Internet. 80% of the teachers surf the net at least once a week while the other 20% said they use the Internet only as needed. All of the teachers surveyed answered "yes" when asked if they use the Internet for planning classroom activities. The teachers mentioned visiting museum websites, sites relating to specific authors, puzzlemaking websites, and grammar websites. When asked about what type of technology they would most like to have added to their classrooms, the responses included an infrared mouse, more user-friendly computers, digital cameras, Internet connection, language programs for individual tutoring, and self-testing programs.

Recommendations

Additional research should be done about the different types of technology available to teachers to enhance their lesson plans. This researcher believes that all teachers should be required to meet set standards regarding computer literacy and the schools should allow teachers the time necessary for increasing their awareness. While it is apparent that strides have been made to bring technology into the classroom, there is continued room for improvement.

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Student Engagement in the Secondary Science Laboratory

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Introduction

The high school science laboratory has for some time now been considered an integral component of scientific education. Many people are able to remember when they, as students, participated in either some form of animal dissection or a chemistry lab involving the use of a Bunsen burner, a beaker of boiling water and a thermometer. Over the last two decades, educational researchers have begun to examine more closely the overall effectiveness of such instructional methodologies. In an attempt to enhance the secondary science laboratory experience, educators have encouraged a more constructivistic approach to teaching. As a result, students must synthesize existing knowledge, design experimental procedures, and perform a more detailed analysis of findings, all of which may require more efficient use of time. Since the laboratory setting is a cooperative one in which students must collaborate with classmates to accomplish the assignment, the time students spend discussing the nature and content of the task (student engagement) is a significant variable.

Literature Review

In the field of science education, the laboratory setting has been thought to serve as a prime environment for careful, detailed observation and experience resulting in a better understanding of scientific phenomena (Lunetta 1998). Hofstein and Lunetta (1982) define laboratory activities as a set of contrived learning experiences in which students are able to observe the very phenomena discussed in class and in the community at large. Clough & Clark (1994) suggest that effective teaching through laboratory lessons should include the use of critical thinking skills, identification and efficient solving of problems, and the effective use of communication and cooperative skills.

In an attempt to make the laboratory a more meaningful learning experience, many science educators have turned to a more constructivistic methodology in developing their curricula. Constructivist labs were designed not so much to assess a student's knowledge of rote facts but rather to elicit and challenge student ideas and to allow for more time and space for student interaction (Schulz & McRobbie 1994). Lunetta (1998) examined previous research demonstrating that, when left only to follow a strict set of procedural guidelines, students are often unable to comprehend any possible relationship between the significance of their laboratory work and the design of the experiment. Raghubir (1979) strongly believes that labs identified by a step-by-step format cannot allow for the development of cognitive skills at the high school level. Other researchers have found that, when asked, 78% of secondary science students consider investigative laboratories more interesting than those designed for mere verification (Rubin & Tamir 1988). However, since open-ended investigations enable students to employ higher levels of inquiry at lower levels of guidance, more time is necessary to make the work meaningful (Lazarowitz & Tamir 1994). Rigano & Ritchie (1994) examine the responses of several students to a research project based on the premise of open-ended inquiry. The results of their study indicate that, when given a limited amount of time, students are forced to combine practical skills, intellectual skills, and pre-existing knowledge leading to cognitive overload.

The rates at which students are on-task versus off-task in the laboratory setting have yet to be elucidated. According to one report, external-paced group activities, those directed by the teacher, had the highest pupil involvement (Emmer and Evertson 1981). Students attention was also noted to have been easily distracted unless the task assigned was highly structured. Tobin (1990) points out that while students are assumed to work cooperatively when placed in groups, few studies, if any, have investigated how students collaborate and assist one another in the secondary science laboratory. Cohen (1994) notes that if teachers do little to structure the level of interaction, they may find that students will adhere to a more concrete level of interaction. If too much structure is provided, then students may be prevented from thinking for themselves.

Tobin (1990) suggests that what is needed are investigations into how students engage in the laboratory setting. This study considers the two forms of task instruction, "cookbook" and constructivist-based, in the secondary science laboratory with the hope of better understanding which one produces the desired type of on-task interaction.

Student cohesiveness, defined as how well students get along, and perceived open-endedness of laboratory exercises will also be examined in order to attribute differences in student engagement to differences in laboratory instruction.

Methodology

Data was collected from science classes at a large, suburban heterogenous high school located in the piedmont of North Carolina. In an effort to eliminate differences in teaching styles that may contribute to differences in student engagement, all of the subjects were selected from a single, collaborating teacher's classes. The study subjects were students enrolled in one of four honors chemistry classes, totaling 84 pupils.

The test survey administered was an abridged, amended form of the *SLEI* - Science Laboratory Environment Instrument (Fraser et al. 1993). The modified version employed in this study contained only eighteen statements, with six pertaining to each of three variables. The students recorded their responses on a Likert scale, ranging from Almost Never (1) to Very Often (5). The three test variables measured were student engagement, perceived open-endedness of laboratory instruction, and student cohesiveness.

The students performed two separate experiments, each lasting from one to two days, in which they examined the properties of specific heat. The first exercise consisted of a series of straight forward steps and experimental manipulations followed by a set of explicit calculations and answers. The second experiment was largely open-ended in both procedure and analysis of results. Following each experiment, the students filled out the test survey administered by the instructor.

Results

Total mean values, standard deviations and standard mean errors were calculated for all three variables examined in both laboratory settings (Table 1). Independent t-test analyses of mean scores were obtained for each of the three test variables (Table 2). Student scores reporting on-task engagement yielded significant differences (alpha=0.05) between "cookbook" and open-ended labs. This finding results in rejection of the null hypothesis and suggests that the means of the two groups are not the same. Correlation coefficients were obtained to determine any possible relationship between the study variables. In particular, student cohesiveness and students' perception of open-endedness were both compared with student engagement, the principal study variable. A correlation coefficient of 0.225, significant at the 0.01 level, suggests a positive relationship between students' perceptions of open-endedness and student engagement.

Table 1. Group Statistics for Study Variables in Two Separate Laboratory Exercises

Study Variable	Lab Type	N	Mean	Std. Deviation	Std.Error Mean
Cohesiveness	Cookbook	83	4.0214	0.4828	5.299E-02
	Constructivist	84	3.9740	0.4684	5.110E-02
Open-ended	Cookbook	83	3.2835	0.5438	5.970E-02
	Constructivist	84	4.0598	0.6268	6.839E-02
Engagement	Cookbook	83	3.1818	0.6835	7.503E-02
	Constructivist	84	3.3946	0.6762	7.378E-02

Table 2. Independent Samples Test Analysis for Study Variables

Study Variable	t	Sig. (2-tailed)	Mean Difference
Student Cohesiveness	0.644	0.521	4.740E-02
Open-endedness	-8.544	0.000**	-0.7763
Student Engagement	-2.023	0.045*	-0.2128

*significant at the 0.05 level; ** significant at the 0.01 level

Discussion

Results from this study indicate a significant difference in on-task engagement between the two types of exercises, in favor of open-ended laboratory instruction. While students perform constructivist-based experiments there is a higher demand for independent (without the assistance of the instructor) critical thinking, detailed observation and subsequent analysis of findings. As a result, students must make more effective use of their time in order to complete the assignment, possibly accounting for increased on-task engagement when compared to "cookbook" laboratories. Another explanation may be higher levels of student enjoyment and interest resulting from the opportunity to take more responsibility for their own work. While the constructivist-based exercise had a significantly higher level of favorable student engagement, neither of the studied laboratory exercises achieved optimal levels of time spent on-task. These findings suggest that further work is needed to determine possible revisions to laboratory instruction that would encourage increased active participation on the part of the students and, in turn, increased on-task engagement.

Student scores revealed significant differences between perceived open-endedness in the two laboratory exercises. While a certain laboratory exercise may be developed on constructivist-based principles, there can exist any number of variables (i.e. teacher involvement) during the actual instruction that, in effect, can alter the open-endedness of the experiment. Results also indicate a significant, positive relationship between the two variables, perceived open-endedness and student engagement. These findings provide further evidence suggesting that constructivist-based exercises have a positive effect on student engagement.

This study can serve as the impetus for future investigations into student engagement, particularly in the secondary science laboratory. Once the effects of environmental variables involved, such as type of instructional methodology as examined here, are elucidated and more clearly defined, efforts can be made to enhance student participation and learning. Such efforts on the part of science educators could, in turn, encourage further reform in the practice of science teaching so as to increase the overall effectiveness of secondary laboratory instruction.

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Student Attitudes Towards Using the Internet in Class as a Function of Class Time Spent On-Line

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December, 1999

Introduction

As a result of their importance in American society, computers have become an integral part of the education system. Students need to be exposed to computers at an early age in order to gain the competency that they will require later in life as members of the workforce. Teachers have been using computers in their classrooms as a resource for some time now. One use of the computer that is rapidly being integrated into the classroom is the Internet. The Internet has a variety of possible uses in the classroom. It is an amazing resource for research on many topics, Richards (1996) provides a quote from one of the teachers involved in her study describing the research possibilities, " Students have the ability to access information that would be unavailable in our community (pp. 72)." While research is an important use of the Internet, there are many other possibilities. Students can collaborate on laboratory experiments with other classrooms around the country to increase sample size (Murfin, 1998), or take on-line field trips (Krupnick, 1998). Students are provided with a wider array of information than can be found in their schools. There are many other examples of ways in which the Internet can be utilized in the classroom.

It is obvious that the Internet could be a tremendous resource in the classroom, but what do students think about using technology in class? Pedretti et al (1998) found that 86% of students enjoyed the use of computers and other technological tools in class. Only 8% of students in the study said they did not enjoy the use of technology. These students were those with limited previous experience and saw the computer as intimidating (Pedretti et al, 1998). Krendl and Broihier (1990), on the other hand, found that over time students saw computers as less useful and enjoyed using them less.

Review of Literature

The Internet has become an important, widely available, educational resource. A report published by the National Center for Educational Statistics shows that Internet access in American public schools increased from 35% in 1994 to 78% in 1997 (NCES, 1999). However, this increased access does not correlate to use. Baines, Deluzain, and Hegngi (1998) performed a study in Florida and Georgia that showed that only 4% of teachers integrated technology into their instruction. This is a stark contrast to the 96% that say that they have integrated technology into the curriculum (Baines, Deluzain, & Hegngi, 1998). In addition, it is shown in the same study that many teachers lack the training to properly utilize the technological tools available to them (Baines, Deluzain, & Hegngi, 1998). If a teacher is trained properly he or she will find a whole world of educational materials and opportunities available on the Internet.

In addition to being a source of materials for teachers, the Internet can also be a site of student learning. The "Book Read Project" allows students in different parts of the country to discuss books that they have read (Jodi & Saccardi, 1998). E-mail can be used to improve communication between teachers and students (Manning, 1996). The "Ask a Scientist" program at Argonne National Laboratory gives students an opportunity to ask real scientists for help on questions. This not only provides students with the information that they need, but also a chance to see how real scientific thinking works. Students can also produce web pages that display information that they have gathered on a particular subject. Nicholson (1996) provides the example of students producing web pages on renewable resources.

In addition to being useful in the classroom, the Internet appears to improve student performance. Agarwal and Day (1998) showed that Economics students using the Internet had higher final grades than those who did not. Students also appear to enjoy using technological tools such as the Internet in class. Pedretti et al (1998) found that 86% of students in their study enjoyed using the computer and other educational technology in class, while 8% did not. This seemed to be correlated with experience levels. Those students with limited prior experience using computers saw them as intimidating. Conversely, Krendl and Broihier (1990) found that as students gained more experience using computers in class, they saw them as less useful and had a more negative attitude towards using them.

This study is an extension of previous research. Its aim is to determine whether or not there is a relationship between the amount of time that students spends on-line in class and their attitudes towards using the Internet in class.

Methodology

A short questionnaire assessing student attitudes towards the Internet was administered every Friday for a period of seven weeks. Questionnaires consisted of attitude assessment questions and open-ended questions, and could be linked using student school ID numbers. Classes were obtained through a local high school in Winston-Salem, NC. Eight different classes, representing three different levels of Internet use, were chosen. Five anatomy and physiology classes which would be using the Internet approximately every other week, a fast-forward history class that used the Internet everyday, and two economics classes that would be using the Internet weekly for the first half of the study and not at all for the second half.

After approval from the Institutional Review Board at Wake Forest University, student and parent consent forms were given to each class. After the consent forms had been returned, the initial questionnaire was administered. The researcher, due to other obligations, could not administer the surveys personally, so the teachers were asked to do so. Questionnaires were delivered to the teachers every Thursday throughout the duration of the study, with instructions to administer them to the classes the following day.

Attitudes were scored on a twenty-point scale based on responses to the four attitude assessment questions. Free response questions were scored as positive if they supported the use of the Internet in class. Data analysis was performed using the statistical software package SPSS. Pearson and Spearman correlation tests were used to determine relationships between use and attitude for classes and individuals. An independent samples t-test was performed to find a difference in attitude between the test conditions.

Results and Implications

Unfortunately, there were some problems that changed the way that the study was conducted. First of all, for reasons beyond control, the teacher of the Economics classes had to miss school for an extended period of time. As a result, the Economics classes were dropped from the study. Next, a significant number of students neglected to put their student ID numbers on the initial questionnaires. This resulted in an inability to trace the changes in attitude of specific individuals over the course of the study. Finally, students were not filling out the entire questionnaire during weeks when they did not use the Internet, as a result the questionnaire was changed to provide more detailed instructions.

The first hypothesis was meant to test the differences in student attitudes towards the Internet based on the number of on-line experiences that they had in class that week. A Pearson correlation value of r=.221 and a Spearman's r value of .294 were both significant at alpha-level .01. A Pearson correlation was also performed using the average number of experiences and the average attitude for all students, the r-value of .433 was found to be significant at alpha=.05. These results show that the number of experiences students have on-line during a week is related to their attitude towards the Internet. This agrees with the work of Spitulnik et al (1998).

The results suggest that the Internet may be more useful if it is incorporated as a regular component of classwork. This has two main implications. First of all, students would gain more experience using the Internet and could become more comfortable with its uses, as well as more competent at using the Internet. Second, students would have access to a greater amount of information. Students with an interest on a topic covered in class would be able to find more detailed information on the Internet.

A second hypothesis tested the changes in attitude for each class throughout the study, based on cumulative hours spent on-line. Pearson correlation tests showed no significant changes for any of the classes. It is possible that these inconclusive results were obtained as a result of small sample sizes used in each of the tests. As they are, these results contradict Pedretti et al (1998), in that the students were not more comfortable after having gained more experience using the Internet.

The final hypothesis tested the differences in attitude between the two test conditions. It was shown that the participants in the everyday condition had significantly higher attitude scores than the sporadic use condition. A significance level of .033 was obtained; this is significant at alpha level .05 for an independent sample t-test. Once again, this result could have been affected by sample size. Taken as it is, however, this result suggests that regular use is preferable to sporadic use of the Internet in class.

Students' free responses provided interesting insights into what the students thought about using the Internet in class. The free responses were positive, with an extremely small percentage (less than 2%) being negative. Students felt that they could obtain more information from the Internet than they received in class, and that it was presented in an easy to understand format. Students with negative responses generally sited the lack of personal interactions as a reason as their reason for disliking the Internet.

The results of this study suggest that using the Internet more often and on a regular schedule may be the optimal way to integrate it into the curriculum. This study provides teachers with interesting guidance on how to utilize the Internet as an educational tool most effectively. Further studies could include greater sample sizes, more test conditions, and an extended observation period. This study provides an interesting framework to what could be a very informative research project.

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Teaching Methods: Seminar versus Lecture

by
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December, 1999

Introduction

The literature presents many different points that discuss the value of teaching methods in the social studies classroom. Building an interactive circle of learning is a primary goal for social studies teachers. In a society that has labeled social studies as boring and tedious, teachers have to find the best teaching method to eliminate those stereotypes. The basic question that is asked by this research project, is whether the different teaching techniques in a social studies classroom (seminar versus lecture) have an effect on student motivation and achievement.

Literature Review

Social studies, with its connection to social interaction and civic participation, benefits from classroom discussion (Larson, 1999). In the social studies classroom, discussion is an effective way to promote higher level thinking. Conducting a social studies class requires intense creativity that is needed to keep the students interested. In effective teaching, it is very important to understand what your students prefer when being taught a lesson. In researching teaching methods and their effect on students, experimenters must explore the ways in which students feel they can be best motivated to learn.

The research literature has many different suggestions about the use of creative methods to enhance student's motivation to learn. With the Constructivist Theory, cooperative learning methods or hands-on activities are examples of different lesson designs that can maximize student development (Bushman, 1998). Understanding that each and every student has a different learning style is important in finding out the best ways to motivate that student to learn. Researchers have studied the theory of influences of teachers' use of classroom discussion and the important factor of recitation in developing student's minds in the social studies classroom (Larson, 1999).

Also, research in social studies classrooms pursues the elements of social interaction between humans. Experimenters have come to believe that different teaching methods can decrease the negative effects of human behavior (Bushman, 1998). With contemporary visions of race, prejudice, and stereotypes being seen as social issues, the social studies classroom becomes a hotbed for controversial issues. Research in the physical arrangements of the social studies classroom, personal discussion, and interaction between different ethnic groups is usually a superficial nature (Singh, 1991).

With the development of cooperative learning techniques in seminar classes versus traditional lecture classes, students are enabled to develop positive feelings through interracial contact. In the social studies classroom where the discussion is at a high rate and where students are able to voice opinions about different issues, the positive inter-group interaction will increase (Singh, 1991). This is very important because of the different conditions in schools today. With the fast- paced, domineering attitude most students possess, the interaction between students is limited to just friends of similar ethnic backgrounds. Traveling into the social background of someone with whom you might not feel comfortable is rarely seen, until the teacher may force the issue. With these new cooperative ideas, students get to see other student's perspectives and not just sit side by side. Group discussion is very important in social studies. With teachers using effective group work in social studies classrooms, students are able to share more personal opinions with classmates (Bliss, 1989).

Other researchers have analyzed the different methodologies of seminar class versus traditional lectures in the social studies classroom. The problem of integration between the two distinct styles is becoming more of a heated debate with teachers and their administrators. With cooperative learning becoming more a must in the methods of social studies, teachers are having a hard time with getting all the necessary material covered in the classroom time allowed. With traditional lectures teachers feel that they are having a difficult time keeping their students interested in the material. Teachers are often being asked by facilitators to adapt materials not designed for cooperative learning to cooperative formats, with mixed success (Slavin, 1999). Even though the development of cooperative learning has increased, research has shown how teachers have not adjusted to the balancing act of discussion and note taking.

Research has also shown that the school family needs values of collaboration to be magnified, and in this new constructivist model for learning, students will be enabled to build self-confidence. Individual concern in students has plummeted to more teacher talk and book notes without the interaction of self-experiences. Researchers have good reason to believe that as a student grows in educational years, active learning in the classroom becomes more stagnant. Teachers are more prone to use less activity-based instruction as students reach the secondary level (Siler 1998). Alternative tools in the social studies classrooms are needed as students are looking to increase academic motivation.

Methodology

In this descriptive research, the experimenter examined students' attitudes toward the different teaching techniques in the area of social studies. This study involved observations of diverse teaching methods in the social studies classroom. High School students completed a questionnaire with the student's personal preference of activities in a classroom. The researcher also monitored student motivation in the classroom to see what type of teaching method they prefer. This is very important because this allowed the experimenter to evaluate student involvement in the classroom and see whether or not they prefer classroom discussion or note taking. The teachers and students in these classes were asked to participate on a voluntary basis.

Results and Conclusion

The results of the survey indicate that students are motivated to learn, 94% reported that they are motivated or very motivated academically. They also reported that they participate in class, most of the time (44%) or some of the time (56%).

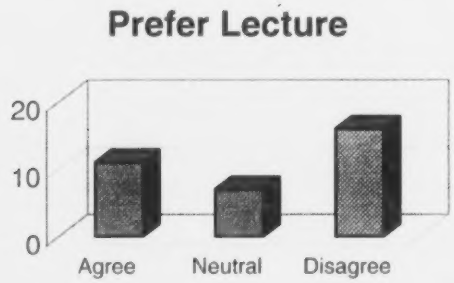
Motivation to Learn

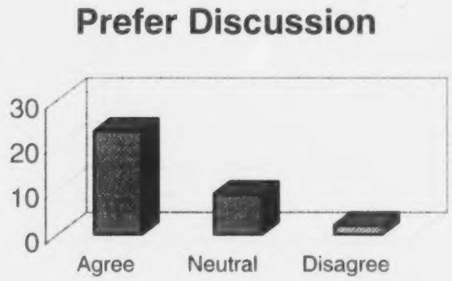
	%
Very High	32
High	62
Low	6
Very Low	0

Participation in Class

	%
Most of the Time	44
Some of the Time	56
None of the Time	0

Examination of the data showed little difference between seminar and lecture classes. As imagined, the students gave numerous answers, but there seemed to be one consistent answer. Students prefer discussion in classes rather then being lectured to. This information is not surprising because of the students' motivation to learn.





The students have a willingness to learn in the classroom because they possess energy to actively participate in classroom discussions. This shows that students want to be interactive in their educational experience because it keeps them involved in the lesson being taught. Social studies teachers should integrate methods that allow students to be actively involved.

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Female Science Students: A New Perspective

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Most anyone working within the field of education is familiar with the general claim that girls tend to be behaviorally and intellectually passive in science and mathematics classrooms. They call out much less than their male classmates, do not raise their hands as frequently, and are less likely to openly disagree with their teachers and peers (Barba and Cardinale, 1991; Kahle and Meece, 1994; Sadker and Sadker, 1994; Tobin and Gallagher, 1987). Similarly, there is evidence that teachers are the source of much of the gender bias and overall disenfranchisement of girls in science. Teachers generally call on girls less, ask higher cognitive questions to boys, elaborate on male responses more frequently, and spend more time overall interacting with boys than girls (Baker, 1998; Barba and Cardinale, 1991; Guzzetti and Williams, 1996).

Based on the author's experiences in private schools, this portrait of the "typical" female secondary science student is inaccurate. The author has generally found teenage girls in private school science classes to be confident, intellectually aggressive and engaged. They frequently raise hands, offer unsolicited opinions to discussion, and are willing to challenge the views of their peers. If this relatively small sample of girls is representative of the larger population of all private school educated girls, then a broader definition of the typical female science student is needed.

Review of the Literature

The educational literature clearly indicates that throughout the U.S. school system, girls are treated differently than boys (AAUW, 1992; Baker, 1998; Barba and Cardinale, 1991; Hall, 1982; Jones and Wheatley, 1990; Kahle and Meece, 1994; Sadker and Sadker, 1994). Researchers tend to agree that this differential treatment of girls at the primary and secondary level results in an education that is qualitatively poorer for females than for males (AAUW, 1992; Hall, 1982; Sadker and Sadker, 1994). Although evident across age level and subject, this gender gap is most pronounced in high school science and mathematics (AAUW, 1992; Kahle and Meece, 1994).

The educational literature is rife with examples that illustrate that even though boys and girls read the same books and sit in the same classes, they have very different experiences in school. It is generally accepted that at least partially as a result of this overall differential treatment, females take fewer courses in, demonstrate lower achievement and interest in, and major less often in science at the college level (Hall, 1982; Jones and Wheatley, 1990). The net effect is that, in an era where technological progress is of immense importance, only 16 percent of all employed scientists and engineers are women (Kahle and Meece, 1994).

Most teachers report that they tend to ask questions to the whole class rather than to individuals. This type of questioning favors risk takers who raise their hands, call out answers, or signal for teacher attention through nonverbal means. This form of questioning benefits the few aggressive, risk taking "target students" who then dominate classroom interactions. Examination of the "target student" phenommena has determined that in most cases target students are male (Barba and Cardinale, 1991; Jones, 1990; Tobin and Gallagher, 1987).

Many researchers have made an effort to discover some of the reasons why girls participate less. Regardless of the number and gender of target students in a classroom, males are much more likely to have interactions with the teacher. The common thread that runs through the educational literature when one examines male student dominance is that females are fundamentally different in their overall behavior as students. These differences manifest themselves in the ways girls attempt to gain teacher attention, the frequency with which females call out answers, and even in the language they use when speaking in class (AAUW, 1992; Barba and Cardinale, 1991; Guzzetti and Williams, 1996; Morse and Handley, 1985).

While much of the research on gender bias—and within the field of education—has been conducted in the public schools, researchers have found sexism and gender bias in the independent school system as well (Lee, Marks and Byrd, 1994; Sadker and Sadker, 1994). However, little if any research has been done comparing the two school types, or the students within them. While gender bias may certainly exist within the two settings, the question remains whether girls respond differently in private schools when confronted with sexism. This researcher hypothesizes that the intimate, more nurturing, structured environment afforded to girls in private schools helps to make them more self-confident and willing to take intellectual and emotional risks than their public school counterparts.

Methodology

The methods of data collection for this study were 1) direct observations of public and private school classrooms and 2) the administration of a student questionnaire. Three co-educational private schools in the Piedmont Triad of North Carolina were selected for the study. The public schools selected for the study were two Winston-Salem Forsyth County schools. Three teachers were observed in the private schools (one per school), and three teachers were observed in the public school (two at one school, one at the second school). A total of eight biology class sections were visited in the private schools, and a total of seven biology class sections were visited in the public schools. One female and two male teachers were observed at each of the schools.

Since the aim of the study was to determine how girls behave in classes that may be biased in terms of gender, all classes visited had a relatively even distribution of males and females. In the public schools, only classes that had a 60:40 or lower gender ratio were used. Due to the smaller class size in the private schools, only classes that had a 65:35 or lower gender ratio were used.

Because no stipulation was made regarding the *quality* of student-teacher interactions, any significant verbal exchange between teacher and student was counted as an interaction. Questions that were directed to a specific member of the class were counted separately for both male and female students, and were counted regardless of whether the student knew the answer or chose to respond. Open questions were also counted, and careful attention was paid to how students responded to these questions in terms of gender and behavior. If a student called out the answer to the open question without waiting to be called on, the gender of that student was recorded. The number of student initiated questions was also counted separately for males and females.

In addition to the direct observations, a student questionnaire was developed that might reveal subtle differences between private and public school female students in regard to self-perceptions about their ability and their classroom experiences.

Results

Teacher-female student interactions in the public schools accounted for 37.9 percent of the total interactions in the classrooms observed. In the private school classrooms, teacher-female student interactions accounted for 56.7 percent of the total interactions (Fig. 1.). A chi-square goodness of fit test determined that this difference is statistically significant at p=.05 (χ^2=3.874, df=1, cv=3.841). Girls in private school have a higher percentage of overall student-teacher interactions than do public school girls

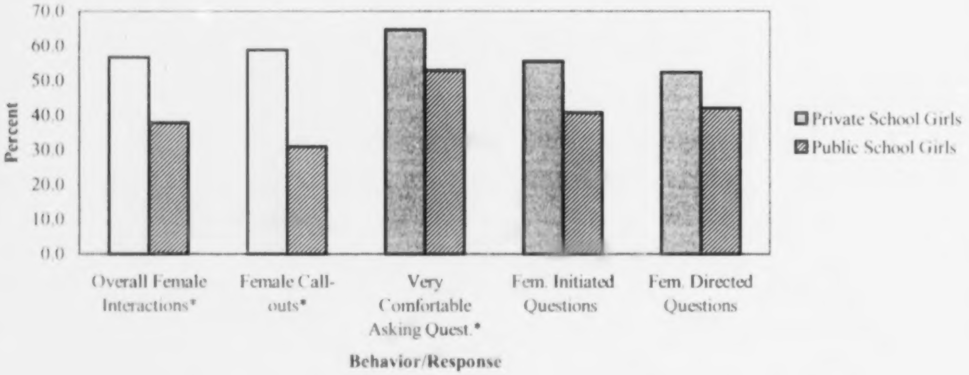

Figure 1. Chart showing overall results of categories that relate directly to female participation and comfort in public and private school biology classes. (*denotes statistical significance at p=.05)

In the public school classes, 31 percent of all the student call-outs were from females. In the private schools, females accounted for 58.9 percent of the total call-outs (Fig. 1.). A chi-square goodness of fit test determined that this difference is highly statistically significant at p=.05 (χ^2=8.659, df=1, cv=3.841). Private school girls have a higher percentage of call-outs than do public school girls.

Question #5 from the student questionnaire asked students to identify their comfort level when asking questions during class. 66.7 percent of private school girls selected they were very comfortable asking questions in class, while 52.9 percent of public school girls selected the same response (Fig.1). Conversely, two percent of private school girls indicated they were uncomfortable asking questions in class, while 17.2 percent of public school girls indicated they were uncomfortable. A chi-square test of independence revealed that these differences were significant at p=.05 (χ^2=7.579, df=2, cv=5.991).

Results from the remaining classroom observations and questionnaire responses did not yield statistically significant results between the two populations of girls.

Conclusions

The data that is statistically significant offers a critical new perspective of the behavior of teenage girls in science class. On the basis of this study, it appears that girls in private schools do in fact have a higher level of engagement and comfort than do girls in public schools. Classroom observations of the private school biology classes clearly demonstrate the need for a re-working of the commonly held belief that girls are generally not active participants in science class.

Eisenhart and Finkel (1989), in their book Women's Science: Learning and Succeeding from the Margins, argue that the state of women in science is not as bleak as many would suggest. While they concede that women's achievements in science and math may be lower than men's overall, it does not mean that women are unsuccessful. They cite numerous examples of highly successful women in science and mathematics—women who are successful in somewhat nontraditional science and research fields. The findings of this study follow in the spirit of those of Eisenhart and Finkel. While girls may indeed be subjected to differential treatment and may in fact not be as engaged in science classrooms overall, their involvement and enthusiasm for science is not low everywhere, and is not always lower than that of their male classmates.

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Dialect Bias in Questioning Styles in the Standard English Classroom

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Much research has been published in the last twenty years regarding the unconscious gender bias evidenced in many teachers' styles. It has been clearly documented that many teachers asked girls lower level questions than they asked boys. This same concept, transferred to dialectic bias, has not been so thoroughly documented. Awareness of such a bias could potentially alter the learning environment of the more diverse classrooms of the twenty-first century dramatically.

This study investigated the existence of bias toward Standard or Non-standard English speaking students in teachers' questioning styles. The researcher observed specifically to determine if teachers spend more (or less) time with students who communicate in Non-standard English (defined as Black English, Rural Southern English, or ESL), correct those students more, or ask them lower level questions, according to Bloom's Taxonomy. If a difference was perceived between the academic contacts a teacher offers the two groups of students, the study also investigated its effect on students' achievement and attitude, as measured by students' responses to teacher questions.

Review of Related Literature

A primary concern for teachers in the classroom is questioning. Benjamin Bloom (1956) determined that a useful scale to measure teachers' questions would be a system of categorizing questions according to the cognitive level they promote, a system called Bloom's Taxonomy. The lowest level of learning outcome is *knowledge,* or memory processing. The next level is *comprehension*, the ability to grasp the meaning of the material. Next is *application*, the ability to use learned material in a new situation. *Analysis* is the breaking down of material into component parts in order to understand the organizational structure. The next level, *synthesis*, demonstrates the ability to put parts together to form a new whole and stresses creative behaviors. Finally, *evaluation* is the ability to judge the value of some material for a given purpose.

While it is obviously important to assess students' knowledge and encourage them to think beyond that, it is difficult to determine how one actually does that in the classroom. Not only should a teacher be aware of her questions and their purpose, her students and their responses, and the changing dynamics of the classroom, but she must also be aware of her own bias towards particular students. Teacher bias, specifically gender bias, has been exposed by several researchers. Marshall (1997) explored gender bias, centered in teachers' communications with and informal instruction of students. Her research indicates that girls receive fewer academic contacts, are asked lower level questions, and are provided less constructive feedback and encouragement than boys. Marshall also noted that teachers give boys greater opportunity to expand ideas and be animated than they do girls and that they reinforce boys for general responses more than they do girls. A great concern, then, in the classroom is that girls are not receiving equal reinforcement.

However, gender bias is not the last frontier in bias or the last divider separating equality of education. There is a problem of equal magnitude between speakers of Standard English and speakers of Nonstandard English. In studying the ESL learning environment in secondary schools, Linda Harklau (1999) discovered that ESL students were hindered in part by teacher talk. She says that because the "majority of [the teacher's] audience is native English-speaking, teachers tend not to make the adjustments in input that they might if they were speaking exclusively with non-native speakers" (44). She determined that when ESL students actually do get to participate vocally in class, they are usually limited to single words or phrases to answer extremely low level questions. She attributes this to the fact that "learner participation tended to be limited by teachers' fears of embarrassing non-native speakers by calling on them when they were not prepared to speak, and by learners' own apprehensions about their competence as English speakers" (45). This suggests that teacher bias may not be entirely founded on a perception of competence, but also on a concern for the students' role in the classroom.

In the secondary English classroom, teachers use questions to help students learn and develop critical thinking skills. According to Christenbury and Kelly (1983), questioning "helps students discover their own ideas; it gives [them] an opportunity to explore and argue; it allows students to function as experts and to interact among themselves; and it gives the teacher invaluable information about student ability and achievement" (3). They go on to add that "questioning also aids students in the comprehension of content." The impairment by gender bias in questioning has been well researched over time, but there is a danger of equal, if not greater, impairment by dialect bias.

Methodology

At East Forsyth High School, a diverse high school in a North Carolina rural suburb of Winston-Salem, four English teachers and 16 students in their standard level English classes were observed. Students ranged in age from 14 to 18 years of age, and gender was not a consideration. For each teacher's class, 4 students were randomly selected: 2 Standard English speakers and 2 Nonstandard English speakers.

Over a period of 10 weeks, I observed each teacher (for at least 10 hours) and noted, according to Bloom's Taxonomy, which questions they asked to which students. Student attitude and attentiveness were quantified, based on their response to the teacher, on a scale ranging from no response, minimal response, simple response (4 words or less), in-depth response, and generative response. I then recorded the teacher's follow-up response on a scale ranging from no response, minimal response, a single-word evaluation (such as 'good,' 'thanks,' 'yes,' or 'no'), a comment (either answering a student's question, commenting on a student's answer, or commenting on the discussion at hand), to a follow-up question (using Bloom's taxonomy).

I compared the data between the teacher's behavior towards the two groups of students to determine if teachers were acting on a dialect bias between Standard and Nonstandard English speakers. I then compared results collectively by adding the number of each type of question asked to each category, and was able to determine the percentage of questions at each level for both groups. Then by grouping those questions into 2 categories, lower level and higher level, I was able to compare the kinds of responses both types of students made to their questions.

Results and Conclusions

The first area to consider answers the question "What kinds of questions are being asked of Standard and Nonstandard speaking students?" Table 1 supports the hypothesis that Nonstandard speaking students were being asked mostly lower-level questions.

Of the lower-level questions asked, most were predominantly knowledge-level. It also shows that they were asked no evaluative questions. While Standard speaking students were also asked more lower- than higher-level questions, they were asked more higher-level questions than their Nonstandard speaking peers.

The next area to consider was the students' response to teachers' questions. Another table compared the Standard and Nonstandard speakers' responses to lower level questions. The results were not very conclusive. All students generally answered lower-level questions with middle-level responses more than any other response type. Table 2, on the other hand, compares Standard and Nonstandard speakers' responses to higher level questions. These results are far more significant. When asked higher-level questions, Nonstandard speakers responded moderately better than Standard speakers. All students generally responded better to higher- level questions, but Nonstandard speakers had a significantly greater percentage of upper-level responses.

In the raw data itself, we find that Standard speakers were asked nearly twice as many questions as Nonstandard speakers. Combining these two very important facts – one, that Nonstandard students were not asked as many questions, and two, when they were asked questions, they were predominantly lower level questions – the research supports the hypothesis that there is a bias in teacher questioning styles based on dialect, whether conscious or not.

In examining the table and data regarding the teachers' initial questions, it is important to note here that out of all the questions asked, most were lower-level questions, regardless of target student dialect. Of the higher-level questions asked however, a greater percentage went to Standard speakers. This pattern can be explained by several hypotheses. This bias could reflect a judgement of capability by the teachers on the students. Another explanation is that teachers would rather not ask them questions that are too involved because they are concerned for their students' well-being in class. Another potential explanation regards the teachers' questioning comfort level. Because the data for the table were combined for all four teachers, a closer examination of patterns for individual teachers reveals that the teachers varied greatly in their overall questioning style. One teacher asked only one question higher than level three (out of all the questions to all four students), whereas another teacher asked only one question *below* level three (out of all the questions to all four students). This, of course, means that most conclusions cannot be too concrete, due to such variance. This does not mean however that the generally observed pattern of bias is unfounded. Also supported is the fact that Nonstandard speakers, like their Standard speaking peers, responded better to higher level questions. This should deflate the idea that Nonstandard speakers may not have the capability or confidence to respond in-depth to teacher questions.

An awareness of bias, if present, in the classroom is essential to creating a healthy learning environment for all students. Teachers need to be aware of their own preferences and struggle to keep these from hindering classroom operations. This study suggests that more in-depth research should be done on this topic to clarify the specific observable patterns and to inform teachers of any such generalizations. Further research should also serve to instruct teachers in alternative methods of questioning or of self-evaluation to limit the purveyance of this bias. It is now the responsibility of educators to examine their own classroom behavior in order to determine if bias is evidenced, and to seek to aggressively correct this discrepancy.

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The Teaching of Evolution in North Carolina:
A Study of Teacher Beliefs and Curriculum Decision-Making

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Introduction

On August 12, 1999, the Kansas State Board of Education voted 6 to 4 to remove the teaching of macro-evolution, the origin of species, and the big bang theory from the state standards (Belluck, 1999). Teachers still retain the right to teach these topics, but they will no longer be covered on the state curriculum or standardized end-of-course tests. Therefore, it is possible that these topics will no longer be taught as thoroughly in some Kansas biology classrooms.

The North Carolina State Biology Curriculum presently includes a unit on Evolution, which is comprised of four subtopics: the Origins of Life, Patterns, Variation, and Natural Selection. The purpose of this research is to investigate the factors that influence North Carolina Biology teachers' curriculum decision-making processes and teachers' thoughts concerning the primary objectives and importance of teaching evolution. Parents and administrators in North Carolina can then be made aware of how teachers are presenting evolution to their students and how changes in the state curriculum are likely to affect the actual content covered in a typical North Carolina high school biology classroom.

Review of Literature

Several studies have investigated the factors that influence teacher curriculum decision-making processes. In a survey of 93 teachers, Leithwood et al. (1982) found that past teaching experience, student needs, and the teacher's own special interests were the top three factors that influenced curriculum development. The mandated curriculum, standardized tests, and the textbook were found to play "important but restricted" roles. Public pressure or protest groups, such as religious groups, ranked last.

Other literature shows that the influence of mandated curricula and standardized tests is strong. Gordon and Reese (1997) found that "high-stakes testing has become the object rather than the measure of teaching and learning" (p. 345). Schwille et al. (1979) asked teachers if they would be willing to add topics to their personal classroom curriculum if certain pressures, such as changes in the school system objectives or parental pressures, were applied. According to the researchers, the teachers expressed a general willingness to change instructional content, whatever the pressure for change. School system objectives or tests were found to be the most influential pressures.

Similarly, Duschl and Wright (1989) found that science teachers' primary goals were to have students understand the content outlined by the dictated curriculum. The authors found that "the development of instructional tasks are dominated by considerations for (a) student development, (b) curriculum guide objectives, and (c) pressures of accountability" (Duschl & Wright, 1989, p. 467). They found science teachers give little, if any, consideration to the nature of the subject matter when making decisions about curriculum.

Surveys investigating teachers' opinions about teaching evolution and/or creationism have been conducted in Wisconsin (Van Koevering & Stiehl, 1989), South Dakota (Tatina, 1989), Pennsylvania (Osif, 1997), Texas (Shankar & Skoog, 1993), Georgia (Elgin, 1983), and Ohio (Zimmerman, 1987). Zimmerman (1987) and Elgin (1983) found that most biology teachers in Ohio and Georgia support the teaching of evolution, but do not believe it is a unifying theme in the biological sciences. However, a majority of Pennsylvania teachers (68%) agreed with the statement, "The theory of evolution is central to the study of biology" (Osif, 1997).

All six studies found that creationism is being taught in many high school biology classes. Zimmerman (1987) found that a significant minority of biology teachers (15.25%) included a creationism component in their evolution unit. Tatina (1989) found that creationism was painted in a "favorable light" in 9.5% of schools in South Dakota. Shankar and Skoog (1993) found that 28% of Texas biology teachers teach creationism in biology class, with most of these teachers citing fairness as the reason. Finally, Van Koevering and Stiehl (1989) found that in response to the question, "How would you characterize your teaching of the origins of life with respect to the issue of creation and evolution?", only 26.4% of teachers responded that the evidence clearly supports evolution, and 3.5% responded that the evidence clearly supports creation.

Methodology

Three hundred questionnaires were administered to biology teachers in thirty-one randomly selected districts in North Carolina. In addition, five in-depth interviews were conducted with randomly selected biology teachers in Forsyth County. Surveys were checked for ambiguities during a pilot study, using local teachers and other education graduate students as preliminary subjects. Using feedback from these sources, the survey was revised to improve clarity, validity, and ease of data analysis.

The questionnaires and interviews first inquired about demographic and personal information. The teachers were then asked to evaluate twelve possible influences on the development of their overall curriculum and a unit on evolution, using a Likert scale (5 = very influential, 1 = not influential). The influences included items concerning the State curriculum and end-of-course tests, textbooks, teacher education, previous experience, research, student ability, religious beliefs, parental pressure, and societal pressure. Finally, in a combination of open-ended and multiple-choice questions, teachers were asked to indicate their beliefs about the following: the importance of teaching evolution, the primary objectives of teaching evolution, the evolution/creationism debate, and whether they would spend less time teaching evolution if aspects of evolutionary theory were removed from the North Carolina curriculum.

Results and Conclusions

Thirty-nine percent of the surveys (117 out of 300) were returned from twenty-three districts. In comparing the influences of twelve factors on curriculum development, it was found that some factors were significantly more influential on the overall curriculum and others were more influential on the evolution unit. However, the general ordering of the importance of factors and even their magnitude were roughly the same for both the development of the overall curriculum and the evolution unit. This implies that teachers do not refer to different sources when teaching a unit on evolution than they do when teaching any other unit in Biology.

The North Carolina statewide curriculum and end-of-course tests were the strongest influences of teacher curriculum design, with a mean score of 4.75 on a scale from 1 to 5. They were significantly more influential (paired t-test, $P<0.001$) than all other factors with the exception of previous experience (4.67), indicating that the statewide curriculum and end-of-course tests strongly affect what students are learning in the biology classroom.

Why are North Carolina teachers are so influenced by the state curriculum and end-of-course tests? One answer could be that financial incentives and recognition are provided for improvement on end-of-course test scores under the ABCs program.

As might be expected, religious beliefs of the teachers and students were a small influence (mean=2.2) but were significantly more influential on the development of a unit on evolution than on the overall curriculum (paired t-test, $P<0.001$). In their responses to an open-ended question, many teachers indicated that it was important to be sensitive to students' religious beliefs when teaching evolution. Their responses indicate that religious beliefs influence *how* the information is presented, but does not alter what information is taught.

As can be seen from Table 1 below, most teachers (84%) do not openly support either evolution or creationism in their teachings about the origins of life. They are choosing to leave the decision up to the students.

Table 1. Teacher responses to the multiple-choice question, "How would you characterize your teachings of the origins of life with respect to evolution and creation?" (N=116)

5%	The evidence clearly supports creation.
11%	The evidence clearly supports evolution.
27%	Evolution and creation do not appear to be contradictory.
37%	The issue is left as an unanswered question.
19%	The issue is never really considered.

Although only 11% of teachers indicated that "the evidence clearly supports evolution," 86% of teachers agreed that evolution was essential to the study of biology and 91% disagreed that it should be removed from the NC curriculum. However, half of the teachers agreed that they would spend less time on evolution if it were removed from the curriculum, and most (81%) believed that other teachers in their district would spend less time on it. These findings further emphasize the profound impact that the state curriculum has on these teachers: they are willing to leave out what they believe is "essential" information in order to comply with the standards. One interviewee commented that she would not have time to teach extra topics because it is already very difficult to teach all of the topics on the curriculum in the allotted time.

What are biology students learning about evolution in North Carolina? In response to an open-ended question asking for the primary objectives of teaching evolution, most teachers (62%) mentioned that it was important to teach the evidence and the facts. Twenty-four percent of teachers also indicated the importance of being sensitive to students' religious beliefs, or explaining the difference between science and religion. What is clear from these results is that these teachers are not interested in "proving" to their students that evolution is either fact or pure fiction. In addition, 14% of the respondents specifically emphasized the importance of teaching critical thinking skills to evaluate the evidence. Thus, even if teachers are not instilling a confidence in evolutionary theory into the students, they are encouraging students to examine the evidence and reevaluate their own misconceptions.

In conclusion, North Carolina teachers feel that teaching evolution is very important to the study of biology. Their primary goal is to teach students the facts and evidence that support evolutionary theory without offending students' personal beliefs. However, teachers rely heavily on the North Carolina State Biology curriculum when planning their classes. In fact, about half the teachers would place less emphasis on evolution if aspects of evolutionary theory were removed from the curriculum. Therefore, removing evolution or aspects of evolutionary theory from the North Carolina curriculum would undoubtedly affect what students learn about evolution in North Carolina high school biology classes.

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Assigning Good Writing

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The debate among educators continues as they seek to ascertain the true goals of writing instruction. Should a teacher encourage fluency and ideas as the goals, believing that language and writing success will naturally follow feelings of competency and involvement in the classroom? Or, should writing skills be taught in order to achieve a level of competency that will enable students to best express their own ideas? The manner in which a teacher prompts and responds to students' writing will, for better or worse, shape the way that students learn to write. This fact alone gives the research and discussion of this topic a sense of urgency for teachers especially, and all those concerned with education. It is the purpose of this research to discern whether a correlation exists between the quality and purpose of a writing assignment and the quality of the writing produced by the student-writers.

Review of Literature

While the debate over the teaching of writing is always changing, the basic strands of the argument have remained the same. Zemelman and Daniels (1988) provide an inclusive and effective explanation of the purpose of writing when they remark that, "in learning to write, students are invited—compelled, really—to make sense of the world, to weigh, to explore values, to invent voices, styles, personae on a page—and then to test everything out by communicating with others" (p.3). The disagreement stems from the teachers' role in aiding the process of their students' writing. Zemelman and Daniels (1988) describe the area of disagreement as a "paradigm shift" from teacher-centered to student-centered writing instruction (p.5). There are significant differences that drastically affect the teaching and learning of writing through the "process" versus "product" approaches (Milner & Milner, 1998, p.275). In the Product, or "traditional," teacher-centered approach to the teaching of writing the teacher assigns a specific topic for writing that is generally expository. Strict grammar, designated form, and a single, teacher-as-assessor audience are some of the characteristics of the Product Approach. The Process Approach veers away from the teacher-centered classroom and relies on the fundamental belief that each student has "a story to tell" (Milner & Milner, 1998, p. 275). The "Process" refers to the procedure that led up to the final outcome of prewriting, writing, and rewriting.

In order to isolate the teaching of writing in practice, it is necessary to examine specific means that are used to elicit written response within the classroom and testing environments. The writing assignment plays a critical role in the teaching of writing. Researchers began to work with the wording of the topics as an isolated variable in order to distinguish the factors that would affect the final written product. Brossell and Ash (1984) conducted an experiment to test the effects of nuanced language changes on the resulting writing samples. None of the test results suggest that the writing within the prompt played any significant role in the final product (p.424). Later, Hoetker and Brossell (1989) performed a similar but more extensive study concerning the wording of topics. A question was raised concerning the disadvantage of lower-ability students in dealing with "frame topics" rather than topics written with more support and direction (p.415). Astonishingly, the scores did not change significantly within the high or low ability groups with the variable topic length description or stance (p.418). The research of Nelson (1990) attempted to examine the essay topic question from the student's point of view. Nelson found that accountability was the driving force behind the quality of the writing. The students' reaction to the assignment had a direct correlation to, "what they were actually be rewarded for producing" (p.362).

Ruth and Murphy (1984) continued the research on the role of assignments within the context of standardized tests. Their study suggests the interference that exists between the writing and the interpretation of the assignment (p.410). If the question is open for interpretation by the author of the question and the student writer, then there is ample opportunity for a "misfire" in communication (p.411). Ruth and Murphy portray the intricate relationships that exist, in standardized test situations, between the test-taker, the test-maker, and the test-rater (p.414). The research suggests, as Squire and Applebee summarize, that teachers must focus on creating assignments that will best elicit thought, organization, and quality writing (p.138).

Methodology

The subjects for this research were selected at random from four classes in a suburban high school in North Carolina. Thirty-three students' writing samples were analyzed for content, form, and assignment appropriateness. The subjects were drawn at random from two ninth amd two tenth grade English courses. The ninth grade classes were taught by Teacher A and the tenth grade classes were taught by Teacher B. Over a twelve-week period of time, Teacher A and Teacher B were observed a total of fifteen times each. I gathered their oral or written presentations of the assignments that had been given to the students. The assignments were analyzed to discern what was explicitly asked of the students by the writing prompt and what was implicitly asked by the teacher through their general attitudes towards writing. Next, a rater was asked to rate the sample in conjunction with a rubric to assess the written work in the following categories: style, content, conventions, organization, focus, and organization. Each teacher responded to a survey and questionnaire regarding their view on writing issues.

Results and Conclusions

At the onset of this research, the researcher was looking for a measurable correlation between writing prompts and the quality of writing produced. To some extent, this correlation was found. However, as the research progressed, it became apparent that the writing assignment must be analyzed within the framework of other factors regarding general writing instruction. This observation lead to a new understanding of what constitutes a complete writing assignment.

The impact of the teachers' daily discussion and the consequent influence of the students' attitudes towards writing cannot be overlooked. Teacher A has very little discussion of writing in the classroom. At the onset of the semester, Teacher A started each class with an exercise called "Daily Oral Language." While this grammar exercise routine did give the students some practice for proofreading and grammar, daily integration of writing principles did not occur.

The focus tended to be more on the cultivation of ideas in this classroom with projects to illustrate an understanding. The goals were to engage the student, to get he or she involved and comfortable in the English classroom. The focus of Teacher B's classroom is clearly writing. It is a rarity to observe a class period without direct mention of writing principles. This discussion covers topics from the excitement of ownership that writing could instill to the purpose of syntax. Teacher B stresses the importance of reading for writing to his students by saying, "Reading is practice for writing, a prelude to writing. To be a good writer you must be able to synthesize." On another occasion, during a discussion of syntax, Teacher B implores the students to, "Be where you are in your reading and writing. Be aware of what you doing for good reading and writing." Teacher B forces the topic of writing to the forefront of every discussion.

Nine different writing prompts were assigned to the 9th and 10th grade classes. The writing assignments that were analyzed showed a vast range of expectations and requirement for the student writers. The prompts varied from the highly directed to the highly open-ended. One writing assignment asked the students to paraphrase a paragraph by Socrates. They were given the paragraph and told to change the words to a more modern and accessible text. This assignment had a direct purpose but did not allow a great deal of freedom. Conversely, another prompt asked the students to write an autobiographical essay describing a school memory. This assignment had much less direction and a more unclear purpose. The students were also given the task of preparing a persuasive essay, giving at least two reasons in support of their opinion. This prompt falls between the above mentioned assignments. It has better focus and direction, but there is still somewhat open-ended.

The prompts that tended to be more open-ended and less directed produced papers that received lower scores from the independent rater. The "paraphrase" essays had an average score of 76%, the highest of the eleven assignment groups. The autobiographical essays were given an average score of 50.33%, the lowest of the assignment groups. The persuasive essays had an average score of 55.66% (with one particularly low score bringing the above average scores down).

In order to place these assignments within the above-mentioned framework of the daily setting, it is crucial to discuss the classroom variables. Both teachers encourage and require revision on the completed written work. Teacher A specifies that an "editing workshop" be held in conjunction with a longer paper assignment. Teacher B mandates a several step process of revision. Teacher B's assignments were followed by a multi-step revision series in which the students actively examined their own work. Within the context of these revisions, Teacher B encourages the students to utilize the "steps" to improve their writing and their ideas. Teacher B pushes them to start writing saying, "Just get it started. You are going to re-write it anyway! Just write! Make sure that there is a beginning, a middle, and an end." Yet Teacher B is also quick to add, "Don't call them rough drafts. Rough implies bad spelling and grammar. Call them a first draft." Through this emphasis on writing, Teacher B utilizes the entire two semesters to accomplish the goals of the class. The first semester is spent practicing writing, but focussing on learning how to read and examine for content and concepts, with the second devoted to the formal teaching of writing skills.

There were other variables involved in the research. First, there were time constraints on the amount of observations within the classroom. There is the also the difference in age and maturity between the two different classes being taught. Most importantly, both Teacher A and Teacher B are both greatly affected by the end-of-school testing. While the 9th and 10th grade classes must take the tests, the 10th grade class has to take the "10th Grade Writing Test" for writing competency. These tests have changed the way that both teachers teach their classes. Teacher B remarked that, "At times, I teach specifically to the test," but added that he is up front with his students at all times. Because of the end-of-course testing, specifically the 10th grade writing test, there is an increased pressure to "create" better writers. Given these variable and the essay and prompt results, it is clear that the better prepared the students and the more directed and guided prompts produce writing of better quality. If a student lacks the skills, it is more difficult to produce quality written work responding to a vague or undirected assignment.

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Encouraging Social Action Among High School Students

by

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Introduction

This study is an attempt to better understand how teachers can motivate students in school to participate in civic and social activities. Are in class presentations on service and motivational talks enough to motivate students, or are more in-depth activities needed? Sadly, constraints of time and money often limit many social action activities. This study's will attempt to clarify whether or not service learning projects done in the classroom are enough to impact student attitudes

Review of Literature

General teaching methods suggest that students often must actively perform an experiment in order to be able to understand a concept. In teaching about citizenship, it is also important that students have an opportunity to be able to practice citizenship. The term "Service Learning" has come to stand for the integration of citizenship, academic learning and community and civic participation. A rapid rise in communication technology and the number of hours spent listening to the radio and watching television or videos, have helped to disengage students from their communities (Coleman, 1997). Due to such disengagement, students are not confronted with the necessity communities have for willing volunteers. In fact, 74% of teens say they do not volunteer because they do not know how to get involved. Another 60% of teens say they do not volunteer because they have never been asked (Wirthlin Group survey as cited in Wade, 1997). Research has shown that when students are given the opportunity to engage in activities such as community service, regardless of race or economic background, they participate with enthusiasm and commitment (Hodgkinson & Weitzman, 1990). Furthermore, when students learn about problems without being offered opportunities to do something about these problems, feelings of helplessness and apathy can arise (McCall, 1996).

Quantitative analysis of service learning projects has found numerous positive benefits. Research has indicated that service learning can result in:

- Increased moral reasoning (Cognetta & Sprinthall, 1978),
- Increased motivation for and interest in school. (Wade, 1995 as reported in McCall, 1996),
- Increased self-esteem,
- Increased social efficacy (Hedin, 1989 as reported in Waterman, 1997),
- Increased empathy (Astin, 1977),
- Improved attitudes towards adults and people in organizations in which they worked ,
- An increased sense of personal competence,
- Gains in social responsibility,
- Increased intellectual growth,
- An increase in factual knowledge that is related to field experience,
- Problem-solving abilities,
- Personal competence (Conrad & Hedin, 1982, as reported in Waterman),
- The growth of relationships with others (Rhoads & Howard, 1998),
- Reduced levels of isolation and alienation,
- Fewer disciplinary problems and an increase in grade point average (Calabrese & Schurnen, 1986 as reported in Waterman)

Furthermore qualitative research has shown that service learning helps students to take responsibility for their actions (Dunlap, Drew & Gibson as reported in Wade, 1997). Observers have noted that service learning helps to teach decision-making skills and teach ownership and pride in work (Bender & Brown, 1994). As a result of service learning programs, students are more likely to believe that their communities can solve problems (Rhoads & Howard, 1998). The interactions they have with others through these projects can help students develop a positive peer relationship with adults. These relationships with adults in turn can help to solve the negative feelings that often exist between youth and society.

Research indicates that students, when involved in a service learning class, tend to feel their classes are more enjoyable, less boring, and more related to their life outside school. Studies show that students who are asked to volunteer are more then willing. In fact, among students enrolled in schools that encouraged voluntary service ,75% of students volunteered (Schervish, Hodgkinson, Gates & Associates, 1995

Time is the greatest complaint and reason for not continuing or starting up a service learning project (Waterman, 1997). However, the amount of time may not be of critical importance. According to a survey by Waterman (1997), self-esteem increased most for students who did less then 20 hours of community service. Waterman found that social responsibility decreased if students were required to do more then 40 hours of community service. However, these reports are called into question by similar qualitative studies that report that the more intense the program, the more likely the program will achieve its results. Myers and Lipton(1994 as reported in Waterman, 1997) found that students were able to integrate service and learning more over a two year period then over a one year period. Waterman has also found that students who did over 40 hours of service learning, experience less disengagement from school than those who did less then 40 hours. This disparity in findings was another reason for my research project.

Instruments:

The pretest was administered to all classes in the control group. The experimental group received a treatment that consisted of a presentation and a social action component. The post-test was then administered to the experimental group. The pre and post-tests were identical for both groups. The survey contained questions that attempted to ascertain whether a child enjoyed school, their attitudes towards community service, their self-esteem, the degree of self-efficacy possessed, interest in other cultures, thoughts on mandatory service and their social responsibility. The questions were measured on a Likert Scale in order that values could be assigned to their attitudes.

Design/Procedures:

Students in the eight control classes which did not have a presentation were each given a survey Then eight classes in the experimental group (two classes from each teacher selected) were given a presentation about a particular issue and then the survey was administered. The presentation consisted of material about the third world. Facts were presented to show the problems many children in the third world face as a result of hunger, lack of clothing, inability to get materials necessary for an education, and sickness. A discussion followed on ways to help the less fortunate. The students were then provided with an opportunity in which they could help out school children in the third world. Students were asked to donate pens to students who could not otherwise afford to buy them. Since all participating teachers required their students to participate a 100% of the students returned their surveys. Interruptions caused two of the experimental classes to receive only part of the planned presentation.

Analysis:

The Likert scale data were compared to discover any differences in student attitudes. Observations of student's reactions were recorded as well as student and teacher responses to the presentation.

Results:

Total of all Categories					
	n	**Mean**	**s.d.**	**t**	**P**
Presentation	99	75.19	9.29	.755	.45
No Presentation	99	71.29	8.44		

Social Responsibility					
	N	**Mean**	**s.d.**	**t**	**P**
Presentation	99	23.08	3.42	.157	.875
Presentation	99	23.01	3.11		

Social Efficacy					
	N	**Mean**	**s.d.**	**t**	**P**
Presentation	99	14.8	1.911	.655	.51
Presentation	99	14.6	1.832		

An examination of the t test for nonindependent samples indicated no statistical difference between the control and experimental groups on any of the subscores or the total scores. Therefore there was no statistically significant change in student attitudes. The increase in the mean score was only one point for those who had participated in the study versus the control group. In the categories such as empathy towards others and interest in other cultures slight differences can be seen on the enclosed graphs. However, the difference is not great enough to represent a true statistical difference.

On the experimental group surveys, there were a large number of hand-written comments from students who stated that they enjoyed the presentation and the social action component. Several students stated that the project helped them to think about the opportunities they had to make a difference. For example, one student commented, "It made me think a lot about other people…It made me really want to do something." The presentation also spurred several bigger projects by students as many of them asked what more could be done to help. One class organized a pen collection for poor school children throughout the community. Another class offered to donate money in order to send clothes and food to children in Mauritania.

Discussion:

These results support the theory that if teachers use only a single class project to encourage students to be more active in their communities that only a slight differences (if any) in student attitudes will occur. More needs to be done to seriously impact students' attitudes. In class service and social action projects may interest students but they will not direct students towards community involvement. Research has shown that in-depth social action projects integrated with curriculum causes student's attitudes to change. Short cuts will not have the desired effect. In class presentation can serve as a wonderful starting point for service projects but should not be the end of efforts to encourage social action.

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BEST COPY AVAILABLE

Standard English, Grammar, and Writing: Case Studies of Three Teachers

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Perhaps no area in language arts is more controversial than grammar. Should we teach it? If so, how? Should we present students with an explicit list of rules that they must follow, or should we try to develop grammatical skills in the context of actual reading and writing? A related concern is the myriad of dialects found in today's high schools. Traditionally, teachers have been intolerant of non-standard forms of English, treating them as illogical and ungrammatical. Is it our job to make the speech and writing habits of our students conform to the standard? If so, what is that standard, and how is this best accomplished? This study focused on three exemplary teachers to determine precisely how they approach the conventions of standard English in writing instruction, and to chart the effects of these approaches in the written work of their students.

Despite widespread belief in the media and the general public, there is no intrinsic reason for the dominance of Standard American English (SAE). As the authors of an introductory linguistics text explain, standard dialects are "neither more expressive, more logical, more complex, nor more regular than any other dialect or language" (Fromkin and Rodman 1998, p. 409). What, then, should be the role of the English teacher? As the demographics of our nation continue to change, we can expect more and more of our students to speak non-standard dialects of English. Is it our job to stamp out dialectal difference wherever we encounter it? As one educator has written, "when we teach correct usage, we teach the linguistic manners of the privileged" (Sledd 1996). Clearly, to linguists, dialects such as African-American English (AAE) are as effective at communication and expression as any other. Moreover, in the real world, dialects are not clear cut; as speakers utilize multiple dialects and as cultural groups mingle, dialects undergo significant change (Labov 1980). A stable, fixed SAE is a myth, therefore, and teaching practices that do not recognize this are out of touch with linguistic reality. The problem for teachers is that SAE *is* power English: it is crucial to success in higher education and the working world. Therefore, most educators conclude that the grammar, vocabulary and idiomatic conventions of SAE must be taught.

LITERATURE REVIEW

Historically, secondary English teachers have taken a prescriptive approach to grammar. The idea that there is a single, unchanging standard form of English that all students need to learn has ruled the profession since the late eighteenth century (Hillocks & Smith 1991; Weaver 1996). Sentence drills, diagramming, and a heavy focus on correcting students' errors have preoccupied the curriculum. As linguists have shown, however, real language is in constant flux, and many "errors" are actually acceptable forms in other dialects. Teachers for the most part adhere to the notion that "correct"—i.e. standard—grammar is inherent to clarity of thought and the logical expression of ideas. Consequently, teaching practice has emphasized grammatical and mechanical purity over linguistic fluency and creative expression. In 1986, Hillocks conducted a massive meta-analysis of all the research that had been done up to that time on the relationship between traditional grammar instruction and writing. He found that "apparently any focus of instruction is more effective in improving the quality of writing than grammar and mechanics" (Hillocks & Smith 1991). Reasoning that "children do better when they are attempting to understand something they have chosen to read" (15), Zemelman & Daniels (1988) summarize the philosophy behind the whole language movement, which is a conscious turning away from traditional methods of language arts instruction. They advocate using authentic texts to teach both reading and writing. In contrast to traditional writing instruction, "Relatively little isolated practice takes place in such traditional activities as spelling, word lists, grammar and punctuation exercises" (15). Grammar and mechanics are attended to in the final proofreading phase if they impede communication, not as ends in and of themselves.

In a direct challenge to whole language, Hirsch (1996) calls for explicitly testable standards across the curriculum. He thinks that we commit a grave injustice if we do not focus on the measurable output of our students. He advises against teaching that focuses on critical thinking or learning processes, arguing instead on behalf of a set of fact-based curricular standards, including grammatical concepts. Delpit (1995) argues that an overemphasis on whole language actually favors those students who already have mastery over SAE. Other students, she argues, need a strong, explicit grounding in the nuts and bolts of standard English grammar. Otherwise, we aren't giving them the skills they need to survive in the real world.

That writing is a process has almost become a cliché. Standard references such as the *MLA Handbook* and *The Bedford Handbook for Writers* include lengthy sections on planning, prewriting, revising, and editing. The teacher's role is often seen as facilitator of the writing process (Zemelman & Daniels, 1988). Process approaches move from the vague to the clear, from the inner, subjective world of writer to the world of reader. Perl (1980) discusses helping students in early drafts tap into their "felt sense," which she describes as "feelings or non-verbalized perceptions." Another key component of the whole language-based process approach is the idea of recursiveness, rather than linearity in writing. Perl (1980) had students tape record their thoughts as they were writing and found that many writers stop at various points to re-read, often changing their direction as a result. This challenges the "traditional notion that writing is a linear process with a strict plan-write-revise sequence."

METHODOLOGY

This study was conducted in the classrooms of three master teachers who have been selected precisely because of the diversity of styles they employ. They all teach in a medium-sized high school in North Carolina. I made extensive observations of their classrooms as well as analyses of their students' work. Teacher AB teaches 10th-grade English, teacher CD 10th-grade English and journalism, teacher EF 12th-grade English.

I used the following methods to determine teachers' instructional stance. I recorded statements by teachers that reveal their attitude toward dialects. I noted the types of writing assigned. I analyzed teachers' attitudes toward the writing process. What prewriting techniques were encouraged/required? I analyzed teachers' assessment strategies by reading their comments on students' papers (see discussion below). To track the effectiveness of these styles, the writing of two students from each teacher was analyzed. These students were selected by the teachers as having difficulty with writing standard English. Using a modified Diederich scale (Zemelman & Daniels 1988), I compared student papers from the beginning of the semester to those done in the middle of the semester. In analyzing teachers' written responses to their students' writing, I used the following broad categories. Mechanics: punctuation, spelling, capitalization. Usage: idiomatic constructions such as double negatives. Syntax: sentence fragments, subject-verb agreement, etc. Organization: overall structure. Logical development: sense and development of argument/idea. Style: word choice, tone. Positive comments. End comments.

RESULTS AND CONCLUSIONS

Teacher AB's in-text comments were distributed according to the following percentages: mechanics 41%, usage 4%, syntax 0%, organization 9%, development 29% style 4%, positives 16%. Teacher AB is fairly consistent in his upholding of SAE. However, he teaches almost exclusively in the whole language mode, and leans mostly towards the process-based approach. Since the writing process attunes students to developing ideas through drafts, one would expect his students' writing to show improvement mostly on global aspects such as quality and development of ideas and organization, relevance, and movement. Indeed both students A and B showed fairly dramatic improvement in these areas. Even though this teacher takes a fairly negative view toward non-standard English, and since a large proportion of his in-text marks regard mechanics and usage, one would expect these areas to show marked improvement. However, I found that both students A and B showed negligible to no improvement.

Teacher CD's in-text comments were distributed according to the following percentages: mechanics 26%, usage 32%, syntax 2%, organization 1%, development 32%, style 0%, positives 2%. Teacher CD, of all three teachers examined, is the most tolerant of dialects, and makes extensive use of whole language and process writing. Much like students A and B, students C and D made little to no gains in the areas of mechanics, usage, and spelling. An exception to this is student C, whose use of punctuation made steady gains. Student C made dramatic gains in organization, reflecting the very process-oriented approach of teacher CD. C also made modest gains in overall quality and style. Student D made no gains whatsoever, even falling slightly in some categories.

Teacher EF's in-text comments were distributed according to the following percentages: mechanics 55%, usage 29%, syntax 7%, organization 0%, development 0%, style 7%, positives 0%. Teacher EF takes the most traditional view of dialects of all the teachers, utilizes some isolated drills to drive writing assignments, and does not explicitly mention the stages of the writing process, although he does give students in-class time for drafting and revising. Student E made slight improvements in overall quality, organization, and style, but E's marks are inconclusive in other categories, improving in some, but declining in others. Student F's marks were generally consistent in all categories except for style, grammar, punctuation and form, which showed marginal gains. The only area that showed dramatic improvement was spelling, suggesting that teachers can effect student performance in this area by giving it plenty of attention.

The teachers in this study had fairly similar (and tolerant) attitudes toward dialects, and they all teach language skills primarily in the context of actual reading and writing. The teachers who were more tolerant toward dialects were more likely to use process-based approaches, suggesting that when teachers see their role as facilitator, rather than gatekeeper, they are apt to attend more to *what* students are saying than *how* they say it. Teachers AB and CD concentrate on the early stages of planning and drafting; EF does not. AB uses series of assignments related to one theme or piece of literature. CD expects multiple drafts, his in-text comments include many suggestions for students to develop ideas and to add detail, and he allots in-class time for freewriting. Not surprisingly, AB's and CD's students showed dramatic improvement in global aspects of writing such as overall quality, organization, and logical development while EF's did not. One major qualification to my results is the fact that AB and CD teach courses that are evaluated by the North Carolina state end-of course writing examinations. Since these teachers' performance is assessed largely on their students' performance on this test, it is not surprising that they spend a significant amount of time on the writing process.

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Relationship of Musical Experiences and Mathematics Achievement

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Introduction

Music is creative artistic expression of passion and feeling. Mathematics is systematic rigorous logic and reasoning. Music is defined by the individual creator for the transformation of ardor into sound. Mathematics finds its foundation based on definitive structure. Everyone can listen to music for different reasons at different times. But can music also increase intelligence in areas such as mathematics? Is this the reason behind the incredibly complex abstract reasoning of great mathematicians through the years?

Review of Literature

Sarnthein, von Stein, Rappelsberger, Petsche, Rauscher, and Shaw (1997) examined music's effect on the brain. An EEG recorder was used to monitor brainwave frequencies while the subjects listened to Mozart. The EEG readings revealed a highly interconnected, structured cortex which produced inherent spatial-temporal firing patterns. Music and spatial reasoning requires these temporal sequences, priming the sequences of this neural activity. It was concluded that enhancement of spatial reasoning tasks were due to the Mozart music, and that long-lasting patterns of cortical activity are related to higher brain functions in humans.

Goeghegan and Mitchelmore (1996) conducted an experiment with 35 preschool children in a music program treatment who were compared at school entry to 39 preschool children without musical treatment. Each group was then tested on the Test of Early Mathematical Ability-2. Initial results showed that the music group had higher mean scores than the children without the musical experience. After further investigation, the difference found was attributed to the musical experiences the experimental group had at home. These experiences consisted of two activities that were related to mathematics achievement: listening to their own music collection, or having a family member sing to them.

The research experiment that led to the popular "Mozart Effect," was conducted over a period of 5 days, by Rauscher, Shaw, Levine, and Ky (1994) from the University of California at Irvine. College students were divided into three groups of equal ability levels. The first group sat silently for 10 minutes. The second group listened to Mozart's Sonata for 2 pianos K. 448 for 10 minutes. A third group was composed of members from each of the first two groups. Then each group was given 16 paper folding and cutting items and 16 memory items to test spatial reasoning skills. The only significant difference on any of the scores was found in the group that listened to Mozart, which occurred between days 1 and 2, showing that the exposure to Mozart did not have a long lasting effect.

To determine if music can have a more lasting effect, Shaw and Rauscher (1997) conducted another experiment involving three and four year old children who received private piano keyboard and singing lessons. Before the experiment, the children were tested to measure their spatial reasoning skills. Twenty received similar private instruction on computers, 10 children were given group-singing lessons, and 14 were in a control group that received no special lessons. None of the children involved had any prior music lessons or computer training. The reason the piano was used was because it gave the children a "visual linear representation" (p. 108) of the music. No other instrument was used in the research. The one-way ANOVA showed only the piano keyboard group showed significant improvement in their ability to use abstract reasoning to complete the spatial reasoning tasks for the two-year study.

Cheek and Smith (1998) conducted an experiment involving 113 ninth graders comparing types of music lessons and their effect on mathematical ability. A survey was given to students asking what instrument they played, whether they received private lessons or not, the number of years they had received lessons in school, and the number of years they had received private lessons. No significant difference was found in mathematical ability when comparing those students who had received private lessons to those who had not. However, when the 20 who had received private lessons for two or more years were compared to the group who had not received private lessons, a significant difference was found. Also, the 20 students who had studied the keyboard scored significantly higher than the 16 who had studied another instrument.

In another study, second-graders from an elementary school were used to study music's effects on spatial reasoning. In the first group, piano keyboard lessons were given 3 times a week and an ST Math Video Game training was given twice a week. The second group took part in English training on a computer 3 times a week and also used the ST Video Math Game. The researchers found that the piano group scored 15% higher than the English group on the WISC-III test overall; 27% better on sections involving fractions and proportional math. No significant difference was found on other parts of the test (Graziano, Peterson, & Shaw, 1999).

Methodology

The subjects for the current study were 134 students in 11th grade who were enrolled in mathematics classes at a public high school in Winston-Salem, NC. The students were randomly selected using an enrollment chart provided by the school.

The students were asked to provide answers to a short survey designed by the researcher. The questions determined mathematical ability by asking the student to list the last four math classes taken and the grade earned in each. This data was quantified by assigning a value of 4 for an 'A', 3 for a 'B', 2 for a 'C', 1 for a 'D', and 0 for an 'F', to compute a math GPA, which was used to measure mathematical ability. Musical experiences were assessed by questions concerning whether or not the student played an instrument. Numerical data was provided by asking how long the student had played the instrument, what age the student began playing, what type lessons they had taken, if any. A Likert scale was used to determine how much the student liked music. Also asked was the average number of hours the student spent in an average day listening to music and which type of music each student prefers.

Results and Conclusions

Analysis involved two independent sample t-tests, using as the independent variables whether or not the student played a keyboard instrument and whether or not the student received private lessons. Results showed that playing a keyboard did not have a significant effect on math GPA (t(132)=0.845, p=0.40). Results also showed that receiving private lessons did not affect the math GPA significantly (t(130)=0.039, p=0.96).

A one-way ANOVA was used to determine the effect of the number of years the student played an instrument and the math GPA. The independent variable was divided into three categories: 0,1-2,and 3 or more years. Results showed that the number of years a student played an instrument did not affect the math GPA (F(2,131)=0.337, p=0.72). This test also showed that whether or not a student even played an instrument did not significantly affect the math GPA.

Several correlation tests were run using the following as variables: the age at which the student began playing the instrument (r=0.019, p=0.83), how much the student liked music (r=-0.08, p=0.32), and the number of hours the student listened to music in a day (r= -0.20, p=0.01) to determine if there existed a significant relationship with the math GPA. Only the average number of hours a student listened to music in a an average day had a significant correlation with math GPA.

The results showed that very few students have never played an instrument (17.9%), while 23.1% began playing at age 11. Results also showed that students thoroughly enjoy music in general - as most (64.9%) said that they loved it. Pop/rock (26.4%), rap (25.4%), and R&B (17.6%) were the favorite types of music among those surveyed.

Among all variables tested with the math GPA, the only significant relationship that existed was the correlation with the average number hours the student spent listening to music in an average day. This shows that playing the piano did not affect the math GPA, nor did receiving private instruction. The one-way ANOVA test showed that the number of years the student played an instrument did not affect the math GPA, and that playing an instrument at all did not affect the math GPA. How much a student enjoys music does not affect math GPA either. This study showed that listening to music as opposed to making music had a significant effect on a high-school student's mathematical ability.

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Why do Students Misbehave in the Classroom?

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INTRODUCTION

Classrooms today have to face increasing amounts of students who misbehave. The burden of this misbehavior is often left to the teacher to deal with, and disciplinary actions may not always be effective. Many studies have been done on how to combat discipline problems, but more importantly one needs to find out the root of these misbehaviors. It is important to look at exactly what misbehavior in the classroom means.

Review of Literature

First of all, behavior involves people besides oneself or there would be no grounds to distinguish it as behavior (MacClenathan, 1934). More specifically, pupil behavior is seen as disruptive when it impends on the teacher's instructing effectiveness or the student's potential to learn, or when it is simply violating the rules of classroom conduct (Stebbins, 1970). MacClenathan (1934) noted that behavior, in the social sense in which it is employed, is a socially evaluated, and socially regulated product; misbehavior represents conflicts between individual behavior and social requirements for behavior.

One study found that teachers have their own habitual ways of responding to disruptive behavior, and there is hardly any communication among faculty members about these ways. Implications from this study suggest that management of disorderly behavior has no real specific cultural definitions to guide teacher responses to misbehavior; there is no specific guideline for them to follow (Stebbins, 1970). This particular study found that teachers reported that a great deal of whispering or talking constituted a lot of the misbehavior.

One can blame poverty, parents, administrators, poor teacher strategies, TV programs, single-parent homes, focusing on individuality, and scores of other things. There is little a school or teacher can do about a student's background, parents, environment, past experiences, self-concept, hormones, or all the other things that combine to affect behavior (Hanny, 1994). Once we can determine why students misbehave and the underlying mechanisms for misbehavior, we can then look to solutions.

Method

Participants

Participants in this study were twenty high school teachers from the Winston-Salem/ Forsyth County School System.

Materials

A descriptive questionnaire containing ten multiple choice questions and one open-ended question was created and used to ascertain what teachers believe to be the cause of misbehavior in the classroom.

Procedure

Five descriptive questionnaires were given to four different cooperating teachers in the Master Teacher Fellows program. The teachers were asked to distribute the questionnaires amongst their colleagues. Two teachers were asked to do this through a hand written note put in their personal mailbox at school, along with the questionnaires. The other two teachers were asked in person and handed the questionnaires. The surveys were to be returned through a self-addressed stamp envelope, which was included in the survey packet, along with an informed consent form that was to be read, signed, and returned with the survey.

Results

In order to decipher the questionnaire the mode was analyzed from each multiple choice question as the most popular answer and the area most commented on in the open-ended question was also analyzed. The first question was, "Why do you think students misbehave in the classroom?' The modal response for the first question was, "lack of respect for authority." The second question was, "What type of discipline problems have you experienced in your classroom, if any?" The modal response from the second question was a tie between the following responses: "speaking out of turn" and "not participating in class." The third question was, "How frequently do students that misbehave, typically do so in your classroom?" The modal response was, "daily." The next question was "How many times do students who typically misbehave, do so weekly?" The modal response was "one to two times." The fifth question asked, "How are class or school rules made known in your classroom?" The modal response was, "reviewed at the beginning of the school year." The sixth question asked, "What type of discipline is used to respond to student misbehavior in the classroom?" "Verbal warning", was the mode. The seventh question of the survey was "How many students typically misbehave in your classroom per week?" The modal response was, "one to two". The eighth question was "What are typical grades for students who misbehave in your classroom?" The modal response was "F". The ninth question asked, "How would you rate the self-esteem of students who misbehave in your classroom?" The modal response was a tie between "average" and "moderately low". The final multiple choice question was, "Usually how involved are parents of students who misbehave, in their child's education?" The modal response was another tie between "made verbal contact with teacher" and "none of the above". The open-ended question asked, "If you could do something(s) for students who typically misbehave in your classroom, what would you do?" In responses to the open-ended question, the word "parents" was mentioned eight times. This response was the mode.

Discussion

The results of this study imply that the conditions of a student's home life correlate directly with discipline and grades at school. Parents need to be made aware that every aspect of a student's life affects the other. A student's home life is just as important as paying attention in the classroom. Also, elementary schools need to emphasize to parents the importance of properly training your child at home before that child is sent into the school system and must then be cared for by a teacher during the day. Another area that needs to be addressed with students is motivation. In order for students to perform in a school setting that student's motivation needs to be discovered, and manipulated if a student is not able to render the proper motivation by themselves. Motivation appears to be a key aspect in student performance in school.

Misbehavior is not a sometime thing. It usually occurs often, and is most likely cyclical. School rules need to provide the correct lines within which students may operate. These lines need to be posted in the classroom for everyone to be fully aware of them. Consequences of breaking school rules might need to be posted as well. This is not an attempt to have students focus on school rules, but instead to have indisputable guidelines for both teachers and students to work within. Another possibility that may depend on the maturity level of the students involved is having the students develop the rules, and have them enforce them. This system is practiced and does work.

Instead of having small warnings that apparently are not effective and eventually lead up to a larger situation that is not dealt with until that time, a demerit system might be in order. This would provide an account of all the little incidents before they escalate into something larger. Also, if all the little incidents keep occurring they could merit an eventual punishment equivalent to one large incident. Discipline is a serious matter in today's schools, and it should not be approached as if it is being blown out of proportion by people who do not work in the school system.

Since students who typically misbehave have grades of "F" and "D", then maybe the importance of an education needs to be emphasized. It is difficult for any teenager to understand the true importance of their education until they are out of that environment and in the work place. Maybe a program that explained to students that the more education one has the more likely one will be able to live comfortably in our free-market economy. Students need to understand that an education might not define them as an individual, but it will open doors for students, and keep them from being defined as unemployed.

Finally self-esteem, which is linked with motivation and parental involvement, needs to be developed in students at home and anywhere else they spend their time. A low self-esteem correlates directly with discipline problems. No one answer exists that will totally do away with misbehavior. Misbehavior is a result of the factors that have been discussed. The factors discussed, such as motivation, home training, and discipline systems all need to be developed in a manner that will benefit students. Administrators, parents, and teachers all need to work together to help eliminate misbehavior in the classroom.

The main limitation of this study was that only a few teachers returned the questionnaires they received, and that only eleven questions were put on the questionnaires. In the future this study would benefit from a larger format that had more subject specific responses. Also, if this study could be conducted at least statewide or possibly even nationwide then it would bear more significance.

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